MAY 195

National SAFETY NEWS

With Feature Section
THE JOURNAL of the
American Society of Safety Engineers

The Sky's the Limit
(See page 18)

ONE RESPIRATOR STANDS OUT

NOW IN MELLOW-TONE DARK BROWN

Just the thing

ON-AND-OFF THE JOB

Here's the latest! The popular, dressy slip-on in today's rich, dark brown. Perfect for work, for play, for 'most any occasion. Dress shoe leather and design, plus soft Air Cushion Saf-Tred sole and the sure toe protection of the famous Anchor Flange® Steel Box Toe are its outstanding features. Many workers will *want* H540... a new addition to the HY-TEST Line. Write for complete information.

H540... Dark brown gore slip-on, brown Neoprene Air Cushion Saf-Tred sole and heel, Crescent dress shoe last.

B	7-12, 13
C	6-12, 13
D,E	5-12, 13

H533... Same in black grain leather.

HY-TEST SAFEty SHOES
Division INTERNATIONAL SHOE COMPANY
1509 Washington Ave., St. Louis 66, Mo.
Teletype: SL300
927 N. 3rd St., Philadelphia 23, Pa.
Teletype: PH476

HY-TEST

SAFEty SHOES FOR EVERY NEED

Circle Item No. 1—Reader Service Card

← Circle Item No. IFC—Reader Service Card

National SAFETY NEWS

A NATIONAL SAFETY COUNCIL PUBLICATION

Vol. 79, No. 5 MAY 1959

EDITORIAL

4 Honor Where Due

FEATURE ARTICLES

18 The Sky's the Limit—*Homer K. Lambie*
20 You Will Build an Air Force Academy—on the Double!
25 Minds and Mishaps—*Karl Menninger, M.D.*
26 The Contractor on Your Premises—*Jervis C. Webb*
28 Working Together on the Frisco—*Roy P. Hamilton*
31 Boat Trailers—*An NSC Fact Sheet*
35 Demolition Balls—*Data Sheet 476*
38 Sonic Booms
39 On the Spot (Diary of a Safety Engineer)—*Bill Andrews*
42 Or Will the Heat Beat You?
46 An Accountant Looks at Accident Costs—*Paul J. Burch*
88 To Understand Behavior, Look for Attitudes—*Leon Brody, Ph.D.*
90 Bug Me!—*Robert D. Gidel*
92 Saved by a Hunch—*William Martin*
100 Medical Group Endorses Mouth-to-Mouth Resuscitation
104 All Out in Three Minutes—*Edward J. Siwacki*
108 Now It's Safer to Load Tank Cars
110 Safety Champions of 1958
114 Auditor's Report, NSC
168 Test Ear Protection for Army Signal Corps

MAINTENANCE AND SANITATION

22 Wash Up . . . With What?

DEPARTMENTS

6 Safety Valve
10 Wire from Washington
17 News Briefs
24 Small Business and Associations
30 Accident Barometer
33 Ideas that Worked
44 Industrial Health
50 Off the Job
55 Around the Compass
96 Library
98 Bert
106 Distinguished Service
118 Employee Booklets
119 What's New
120 New Posters
140 Consultation Corner
143 Coming Events
160 Voice of the Reader
169 Personals
173 New Products
180 Calendar Contest
181 Trade Publications

SPECIAL TECHNICAL SECTION

The JOURNAL of the American Society of Safety Engineers—*Robert E. Beighley, Editor* 65-84

NATIONAL SAFETY COUNCIL

Chartered by the Congress of the United States

HOME OFFICE

425 North Michigan Avenue, Chicago 11

New York Offices: Local Service Office, 60 East 42nd St., New York 17; Public Service Fund, 332 Chrysler Bldg., New York 17.

San Francisco Office: 703 Market St., San Francisco 3.

EDITORIAL STAFF

EDITOR: Carman Fish

ASSOCIATE EDITORS: James D. Saul, Robert Dorsett

CONTRIBUTING EDITORS: E. L. Alpaugh, A. M. Baltzer, Harry C. Johnson, Arthur S. Kelly, Nils Lofgren, Harry N. Rosenfield, L. C. Smith

EDITORIAL DIRECTOR: Robert L. Meyer

PUBLICATIONS COORDINATOR: Jack Horner

ART STAFF

DIRECTOR: Ralph Moses
COVER: William Wendland

ADVERTISING STAFF

MANAGER: Robert Jones

PRODUCTION MANAGER: Oliver Mickila

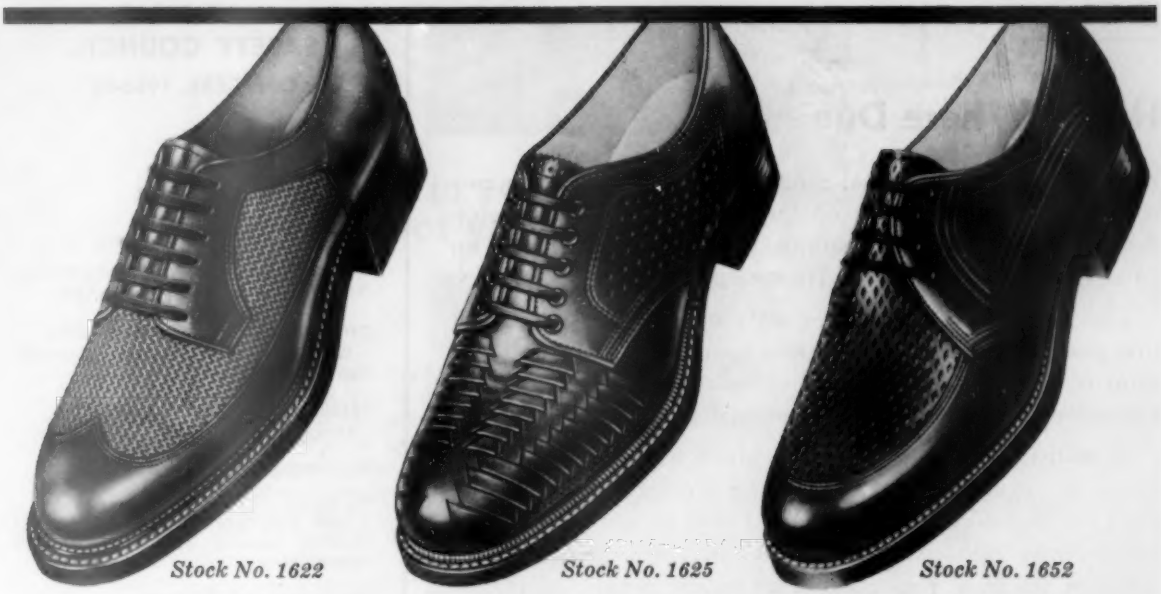
Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

NATIONAL SAFETY NEWS is published monthly by National Safety Council. Copyright 1959 by National Safety Council. Printed in U. S. A. Entered as second class matter June 21, 1921, at the Post Office at Chicago, Illinois, under the act of March 3, 1879. Subscription rate: $6.50 a year. Single copies $1.10. All prices subject to 10 per cent discount to National Safety Council members. Quantity prices for yearly subscriptions and single issues on request. Member Audit Bureau of Circulation.

THE COVER

A Stop-and-Go Safety Slogan Contest was part of a spectacular campaign at Baton Rouge Works of Kaiser Aluminum and Chemical Company. Left to right, J. A. Wilson, works manager, H. H. Kelley, production services safety steering committee chairman, and Homer K. Lambie, safety coordinator, observe the winning slogans posted near the traffic signal on Safety Avenue.

39,300 copies of this issue were printed



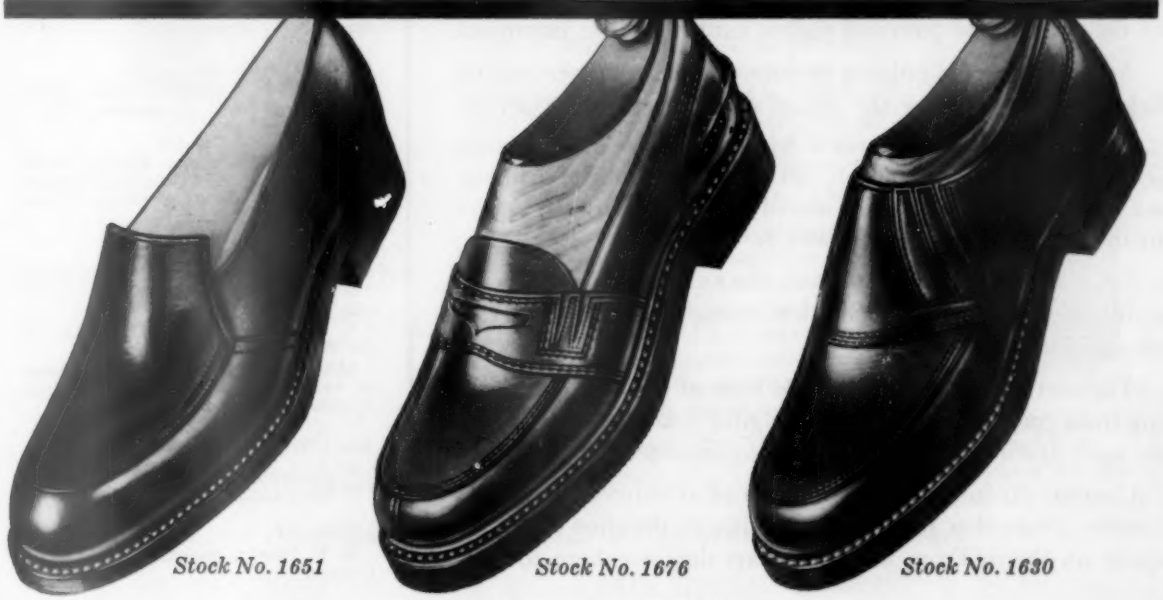
Stock No. 1622 Stock No. 1625 Stock No. 1652

SUMMER FOOT SAFETY

IN STOCK
at Lehigh!

In the summertime, feet get hurt more often in leisure hours. But you lose the time just the same. The right shoes — *these shoes* — will help keep men's feet safe on the job and off. Display them to sell them. Then order as you need them. We have them all IN STOCK FOR IMMEDIATE DELIVERY.

LEHIGH SAFETY SHOE COMPANY, EMMAUS, PA.



Stock No. 1651 Stock No. 1676 Stock No. 1630

Circle Item No. 2—Reader Service Card

EDITORIAL

Honor Where Due

EACH YEAR the National Safety Council is proud to honor companies which have served humanity by preventing accidents in their own organizations. Collectively, they pile up an impressive total of safe man-hours.

This month the NEWS presents the names of winners of first place in annual competitions sponsored by various sections of the Council. Because of space limitations, lists of runners-up are published in sectional pamphlets.

In addition to these companies which have established the lowest injury frequency rates in their groups, there are many others with commendable records. There are many yardsticks for measuring safety achievement, and other awards have been set up by the Council, such as the Award of Honor and Award of Merit. These recognize splendid records which would not receive awards under sectional contest rules.

Standards generally used for evaluating safety performance have their drawbacks, and many other plans have been suggested. Unfortunately, such systems are usually too complicated for the layman. Frequency rates and safe man-hours, on the other hand, give an instantaneous, if inadequate, picture.

No-accident records running into millions of man-hours have high publicity value. However, the man-hours must be consecutive. That means a company with a lower frequency rate for the year might come out second best in competition with a company that bunched its safe hours.

Reductions from accident rates of previous years do equalize operating hazards, but they give undue advantage to the unit whose previous record could only be improved.

Another basis for judging performance is a rate persistently below the average for the group over an extended period.

A company which scores a high rating by any of these standards is doing a good job. All these phases of the situation are reviewed in selecting the award winners listed each month in the section *For Distinguished Service*.

Since virtue is its own reward, the satisfaction of reducing accidents should be compensation enough. But all of us like recognition.

The certificate or plaque is the least of the benefits resulting from good work. But it is a tangible token of recognition. As such, it's a powerful incentive to management and men.

Contests do inspire a vast amount of rewarding effort and interest. From that standpoint they justify the time and work spent on them. From all indications they are here to stay.

NATIONAL SAFETY COUNCIL

OFFICERS, 1958-59

CHAIRMAN OF THE TRUSTEES

W. S. S. RODGERS, Former Chairman of the Board, The Texas Co., New York.

CHAIRMAN, BOARD OF DIRECTORS

WALTER F. CAREY, President, Automobile Carriers, Inc., Flint, Mich.

PRESIDENT

HOWARD PYLE, Chicago.

VICE-PRESIDENTS

For Farms

KIRK FOX, Editor Emeritus, *Successful Farming*, Meredith Publishing Co., Des Moines, Iowa.

For Finance, and Treasurer

WILLIAM H. LOWE, Treasurer, Inland Steel Co., Chicago.

For Homes

DR. GEORGE M. WHEATLEY, Third Vice-President, Metropolitan Life Insurance Co., New York.

For Industry

W. O. WILSON, Manager of Safety, Standard Oil Co. (Ind.), Chicago.

For Labor

P. L. SIEMILLER, General Vice-President, International Association of Machinists, Chicago.

For State and Local Safety Organizations

WALTER K. KOCH, President, Mountain States Telephone and Telegraph Co., Denver, Colo.

For Membership

EDWARD C. MYERS, Vice-President—Personnel, United States Steel Corp., Pittsburgh, Pa.

For Public Information

CHARLES W. FERGUSON, Senior Editor, *The Reader's Digest*, Pleasantville, N.Y.

For Schools and Colleges

DR. LOWELL B. FISHER, President, North Central Association of Colleges and Secondary Schools, University of Illinois, Urbana, Ill.

For Traffic and Transportation

E. J. BUHNER, Chairman of the Board, The Silver Fleet Motor Express, Inc., Louisville, Ky.

For Women's Activities

MISS MARION E. MARTIN, Commissioner of Labor and Industry, State of Maine, Augusta, Maine.

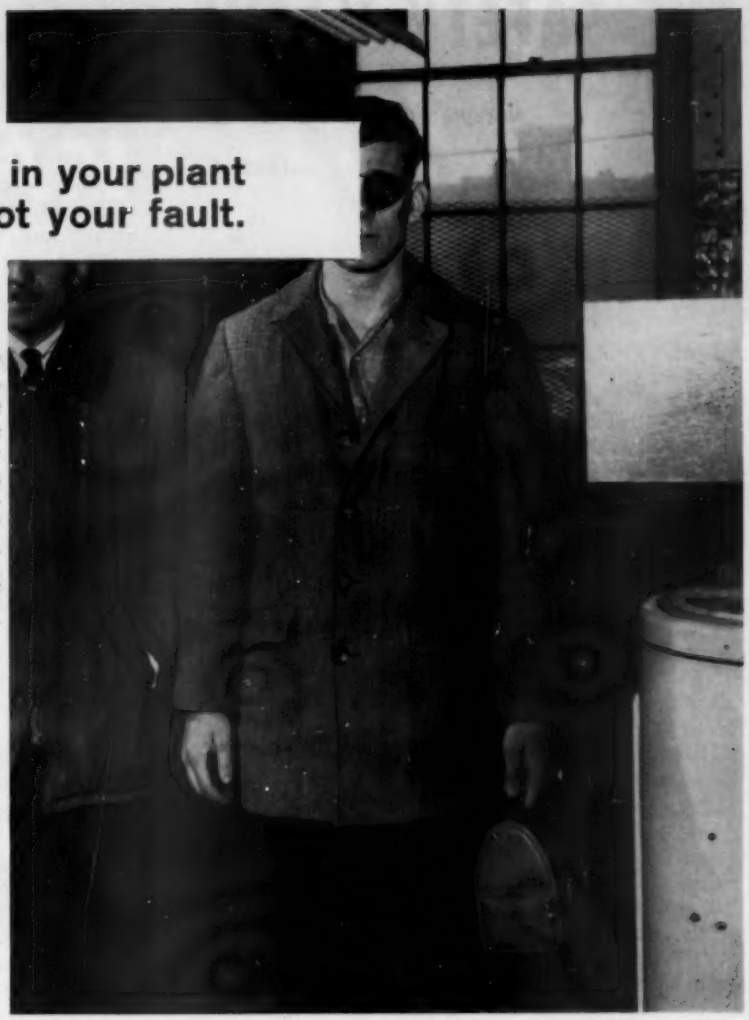
EXECUTIVE VICE-PRESIDENT

G. C. STEWART, National Safety Council, Chicago.

SECRETARY

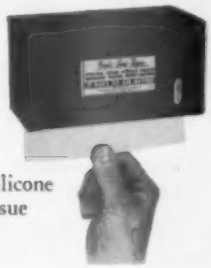
R. L. FORNEY, National Safety Council, Chicago.

If this happens in your plant be sure it is not your fault.



It is estimated that 27% of industry accidents are eye accidents. 3% are injuries to eyes and an additional 24% are caused by poor vision due to faulty eye protection. These accidents cost industry millions of dollars each year. Goggles and glasses stay dirty and dangerous unless you make it easy as possible for workmen to clean them on the job. Further, foul sight holds back production 25% to 40%. No wonder it is one of your largest safety-efficiency problems.

About the MAGIC tissue that polishes — and protects — as it cleans —
Our famous Silicone-treated tissue deposits a protective film that keeps lens crystal-clear. The world's finest quality, MAGIC Lens Tissue far exceeds scientific needs. The sheet is BIG. 50% larger than usual and has twice the tearing strength. Big and strong enough to clean the largest safety goggles. And both sides are packed with Silicone's Sparkle Power. Yet it costs less. It is interfolded — serving only one sheet at a time; not bunches. An exclusive feature with MAGIC. More safety for less money.



MAGIC Silicone Lens Tissue

Exchange all your other Stations for Magic FREE

Magic Cleaning Stations

About MAGIC Heavy-Duty Stations — This is for grimy, oily areas or where Anti-Fog protection is needed. MAGIC Cleaning & Anti-Fog Fluid COMBINES all ingredients. No double inventory. And it's pressure-packed. 1,400 applications per can. Equals 4 old-fashioned bottles. No pump. Nothing to refill. No mess. (Or, if you wish to use your home-made fluid we supply our Adapter ($2.70) with giant 16-oz. bottle and plunger complete.) Indestructible dispenser — with no moving parts — releases interfolded sheets 1-by-1, greatly reducing waste. These (not Silicone-treated) are superb, super-strong, wet-strength quality. No scratching on plastic, and no lint.

Yes, for better results Buy The Leader. Buy MAGIC.

MAGIC Heavy-Duty Cleaning Station

The Silicone Paper Company of America, Inc., 75 East 45th St., New York 17, N. Y.

SERVING EVERY MAJOR INDUSTRY IN AMERICA

Circle Item No. 3—Reader Service Card

THE SAFETY VALVE

Nothing human is alien to me

—TERENCE

ALL IN THE DAY'S MAIL

CRITICAL LETTERS are among the things that make editorial work interesting, and few editors can resist the temptation to publish one that says, "Print this if you dare!"

Here's one from B. C. Krauter, a landscape engineer in Brunswick, Me., who has some strong feelings about the widely circulated advice on using power mowers. Quote:

"There is an article on power mowers on page 81 of your April issue, which is a fascinating scramble of advice and otherwise, written by one Harry C. Johnson, who evidently does not use such a thing as a mower. I'd like to point out a few things for what they are worth.

"If, as your Uncle Harry says, 90 per cent of the 15 million power mowers are of the rotary type, and as he further points out, this type is for high grass and rough ground, most of this country's lawns must be in pretty poor shape, and I'm sure that ain't so, Harry. I have for years with a rotary maintained a good, smooth, well-cut lawn, that is a joy to behold (I think). I know the rotary is used on good lawns because it makes a good job. The reel type is of no value on tall stuff and doesn't do a one bit better job on the average lawn.

"When Uncle Harry talks about electric mowers, for gosh sakes don't let him advocate to put another wire on the thing, even if it is a ground. It's bad enough to get tangled up with the wire that is attached to the machine. Any decent make of electric mower is properly equipped.

"Uncle says something about the lowest portion of the rotary blade (wherever that is) should not extend below the housing. Gosh, man, the manufacturers know that and they couldn't sell a mower that sticks out all over. And if you put a bar across the discharge opening, the machine would get so fouled up you'd have to turn it over for a cleanup every 15 to 20 feet. Harry, where did you get those ideas?

"And then he says that a recoil starter minimizes some of the hazards in starting. Tell us how! The only hazard the old rope starter has is to my back; that rope could sure put a kink in it.

"And then you have to remove all obstacles from the lawn. Why the obvious? Why not leave a few things, such as lawn furniture, the dog and the baby? We never put out a danger sign; we just mow. Harry should see my 12-year-old go out on the job, stay on the ball, and never run over anybody or anything. The dog and the baby just don't like the noise and they vamoose.

"Now tell me, why would anybody in their good senses want to mow a lawn when it's raining? I'd rather sit down and rest until it's over and dry. And then, why would the operator stick in his mitts while it's running—to pull out a rabbit?

"Again, Uncle says, when you start the darn thing, you are supposed to be firm about it and stand to one side. Which side? How firm?

"Leaves or grass stuck under a mower couldn't possibly be called combustible; they're a sticky mess to dig out, and it wouldn't burn, if you poured gasoline on the stuff.

"And now comes the clincher along the line of 'Personal Protection.' As the knights of old, you're supposed to put on your armored suit, pull down the visor, and strut forth to do your mighty deed. My boy wears his bathing trunks and a pair of sneaks, and so do thousands of others when they tend their lawns.

"Anybody else have some good ideas along those lines? But let's be realistic please.

"I have mowed and had mowed thousands of acres in homes, parks, government reservations, etc., so I know whereof I speak."

Well, if Mr. Krauter is willing to stick his neck out with the above, I'm willing to take a chance on any repercussions. I'll let those who have had more experience with power mowers answer him. I'm still keeping that patch of crab grass at Crestfallen Manor under control with a pre-Pearl Harbor hand mower.

* * *

WHILE HANDING OUT medical advice is somewhat out of our line, we are passing on some suggestions from a reader in Kingsport, Tenn.:

"I haven't the faintest idea that you will print this letter as its recommendations will not be concurred in by the medical men on your staff. However, for the benefit of fellow sufferers from sinus, arthritis, and back troubles, I am going to put in writing some cases I know of that were cured by simple remedies.

"Sinus trouble relieved by application of a high-frequency violet ray tube (name of manufacturer on request). Arthritis relieved by taking Epsom salts for several successive days. Trouble in the lower back (frequently diagnosed as a slipped disk) eliminated by curling one's toes when walking, thereby strengthening the muscles which hold up the arches of the feet.

"These remedies may bring ridicule from your medical men but they have brought comfort to suffering individuals who were unable to get help otherwise."

Sorry, we don't have a physician on the NSC staff to pass on the above; all our doctors are Ph.D.'s. There would seem to be one objection to the arthritis remedy. Speaking from experience, use of Epsom salts has some undesirable side effects, and many arthritis patients are in the Serutan age group.

Thanks, dear readers, for writing this month's page for me.

Carman Fish

Circle Item No. 4—Reader Service Card ——→

NEW

PULMOSAN G-W DUST FILTER

introducing a radically new filter medium

for **BETTER FILTRATION OF ALL DUSTS**

U. S. Bureau of Mines Approved for Dusts not more Toxic than lead and Chromic Acid Mist.

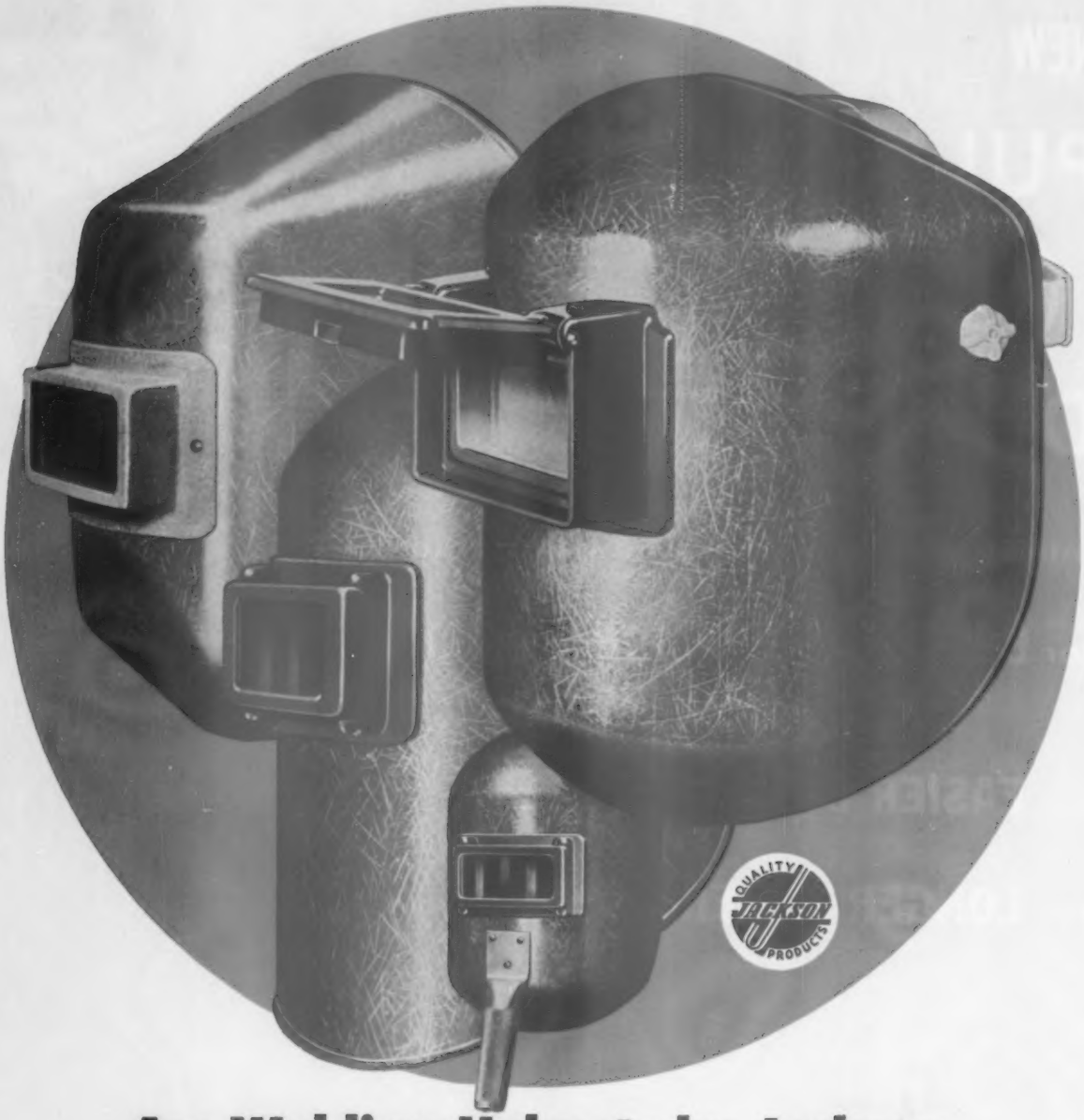
for **EASIER BREATHING**

for **LONGER FILTER SERVICE**

U. S. BUREAU OF MINES APPROVED

for use with Pulmosan Respirators Series L 800 and Series C 200

Pulmosan



Arc Welding Helmets by Jackson

- MADE OF FIBER GLASS, strong, smooth, easy to clean, resistant to heat and moisture, they last.
- IN THREE STYLES (*left to right*): narrow shell, straight shell and curved shell . . . each of these with . . .
- YOUR CHOICE OF LENS HOLDER (*l. to r.*): metal lens holder, plastic lens holder (insulative and less in weight), and a plastic, insulative lift-front.
- ADJUST-O-LOK HEADGEAR of non-conductive, lightweight and durable Nylon plastic provides easiest headsize adjustment while being worn. Helmet stop and cross strap are also adjustable.
- CAP-AND-HELMET COMBINATIONS offer choice of three helmet styles, three lens holders, three Jackson safety caps.
- WELDING HANDSHIELDS in the same three shell styles have plastic lens holders, fiber handles.

Sold Everywhere by Better Welding Supply and Safety Product Dealers

Jackson Products

AIR REDUCTION SALES CO., A DIVISION OF AIR REDUCTION CO., INC.

WARREN • MICHIGAN

Circle Item No. 5—Reader Service Card

Circle Item No. 6—Reader Service Card →

SAFELY... WITH THE GREEN-FLECKED ABSORBENT

Do you know how much slippery floors can cost? Statistics show that falls cause approximately *18%** of all compensable work injuries. Let's be more specific—figure out how much falls cost in your plant:

Enter here your total compensation claims ..... **× 18%* =** ..... **This is the figure that can be reduced by using Sol-Speedi-Dri**

**% of injuries caused by falls*

Moreover, *one* out of every 4 days lost to accidents is the result of a fall. You can cut compensation costs and lost time by using a *good* floor absorbent. Sol-Speedi-Dri is a *good, safe* floor absorbent because it *thoroughly* absorbs and retains all liquids and stays granular and slip-resistant . . . it's the most dust-free absorbent made. This can be easily demonstrated.

Look in the Yellow Pages under *Absorbents* or *Oil and Grease Absorbents* for your nearest Sol-Speedi-Dri distributor. Large, free sample of Sol-Speedi-Dri for the asking—no obligation.

USE A GOOD MINERAL FLOOR ABSORBENT

SOL-SPEEDI-DRI

SPEEDI-DRI DIVISION / MINERALS & CHEMICALS CORPORATION OF AMERICA, MENLO PARK, NEW JERSEY

WIRE FROM WASHINGTON

By **HARRY N. ROSENFIELD,** Washington Counsel, National Safety Council

This report is an information service. Publication does not imply National Safety Council approval of or opposition to any legislation mentioned

WITH THE END of Congress' Easter recess, the legislative process was resumed in committee consideration of various safety proposals.

Industrial Safety. Nuclear radiation, and its hazards, came under especially careful scrutiny. A subcommittee of the Joint Committee on Atomic Energy held hearings on employee radiation, hazards, and workmen's compensation, which went into the general field of occupational hazards in the atomic energy field.

Leading federal scientists testified that more research was needed on radiation injury. Labor representatives urged Congress to enact a program of strict federal control over the use of radioactive materials, and a system of federal codes on a national level. Industry and insurance representatives testified that the states were able to assume the responsibility of protecting employees in atomic energy plants from radiation injuries.

Sen. Hill, chairman of the Senate Committee on Labor and Public Welfare, and Rep. Holifield of the Joint Atomic Energy Committee, both supported federal programs of regulation.

The National Advisory Committee on Radiation, an advisory body to the Public Health Service, submitted a report on "The Control of Radiation Hazards in the United States." (See "Wire," April 1959.)

Finding that "serious health problems may be created by undue radiation exposure," this committee concluded that "every practical means should be adoped to limit such exposure both to the individual and to the population at large."

The committee proposed a comprehensive program for the supervision of all sources of ionizing radiation hazardous to health, including x-ray machines used by the medical profession.

Elements in such a plan include formulation of sound radiation protection standards, and enforcement of public health regulations based on such standards.

This advisory committee of nonfederal experts recommended that "primary responsibility for the nation's protection from radiation hazards" be established in a single agency of the Federal Government, and proposed that the agency be the United States Public Health Service, not the AEC.

The functions of the single agency would include coordination of state and local regulatory programs with federal safety operations and private safety efforts, and development of a comprehensive program of control for all sources of radiation.

The comprehensive program would include:

1. Promulgation of uniform national standards on radiation protection;
2. Vesting of as much regulatory responsibility as possible within state and local agencies, subject to a supervening federal authority "in those areas of enforcement where federal regulation seems more appropriate" or where the state or local government finds itself unable to meet its obligations;
3. Federal financial and technical assistance to local governments for radiation protection;
4. A federal program of training professional and technical personnel to meet federal, state, and local needs in the field.

—To page 14

THE MONTH IN WASHINGTON

- **National Advisory Committee on Radiation proposes program for supervision of ionizing radiation sources hazardous to health. Primary responsibility would go to U.S. Public Health Service.**
- **Proposed Federal Coal Mine Safety Act amendment would make safety provisions uniformly applicable to all mines, regardless of size. Amendment includes study of accident causes, educational and training programs, on-the-spot safety checks.**
- **AEC says public now may participate in consideration of safety aspects of private *and* federally-owned reactors.**
- **CAB amends its Procedural Regulations to exclude liability considerations in CAB hearings on aircraft accidents. Hearings limited to fact-gathering.**
- **Merchant Marine Council schedules hearing on proposed rule changes governing vessel inspection, involving inflatable life rafts, lifeboat color, toxic vaporizing materials in fire protection equipment, and other revisions.**

Circle Item No. 7—Reader Service Card

Ansul people are proud of the D-MODEL dry chemical extinguishers. These cartridge-operated units combine peak fire-killing power with the important advantages of on-the-spot, field recharge and "fresh-fill" performance. They are available in 5, 10, 20 and 30-pound sizes . . . in either red or white. We'd like to tell you more about the D-MODELS and prove their effectiveness to you. Make an appointment with your Ansul fire protection consultant or write for our latest catalog. ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN.

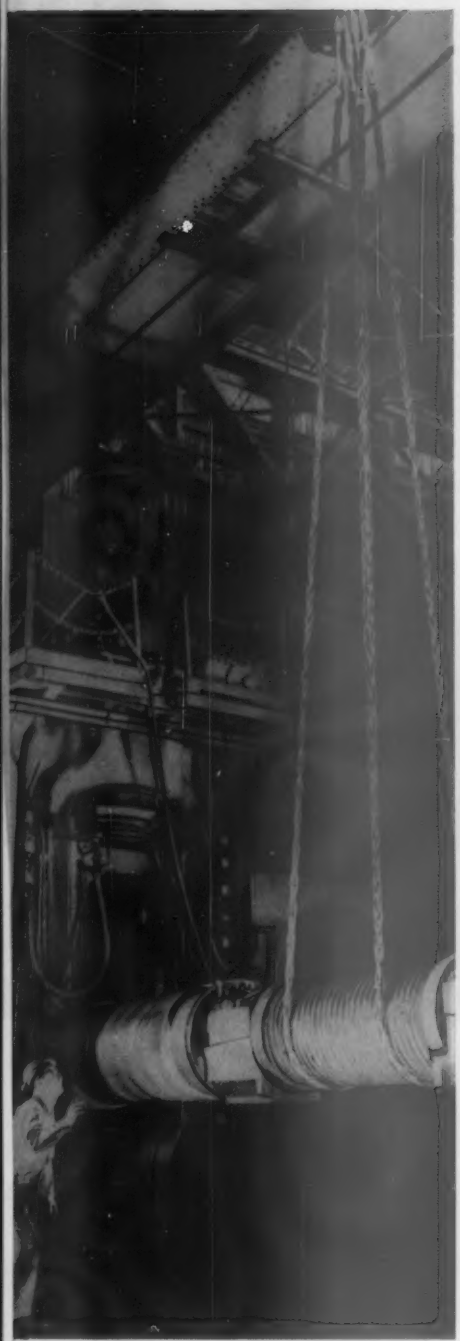
new products, new ideas for better fire protection

ANSUL

REFRIGERATION PRODUCTS
FIRE FIGHTING EQUIPMENT
INDUSTRIAL CHEMICALS

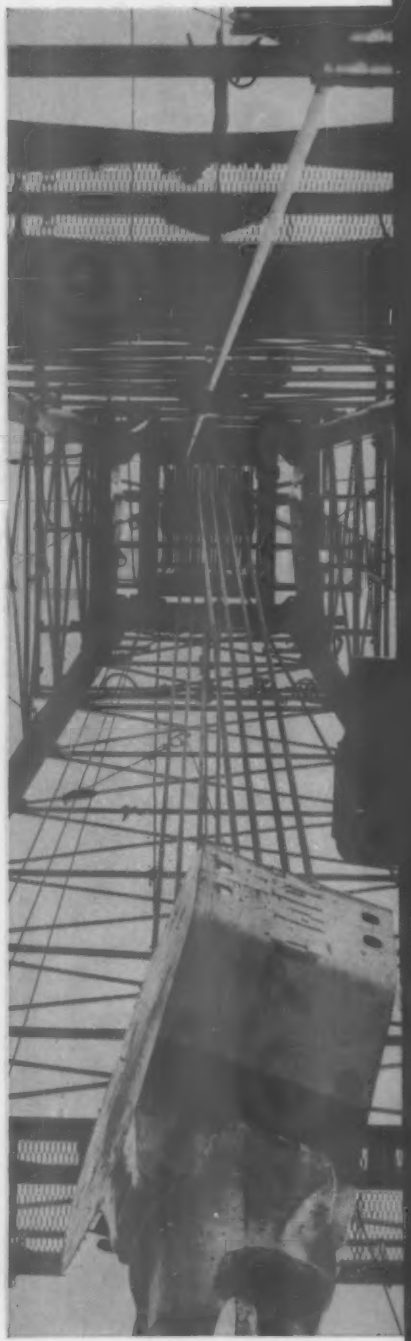
In field after field—FIRST with

SAFETY IN



FIRST in customer service. The set of J&L braided slings, shown here with a 70-ton lift, has been in service for 5 years. Recommended by a J&L wire rope engineer, the set replaced slings that had to be renewed every 30 days.

FIRST and still exclusive producer of Centerfit, the strongest standard wire rope ever manufactured. Centerfit was designed by J&L to reduce costs and provide increased safety in the mining and construction fields.



FIRST in the development of new types of wire rope. To reduce oil well drilling costs, J&L designed SpringKore for deep well rotary drilling . . . and PlastiKore to help increase cable tool life in oil and water well drilling.

LIFTING!

J&L wire ropes and assemblies

FIRST—because J&L research and development have pioneered many new wire rope constructions and assemblies which have provided increased safety and better service for customers of J&L.

FIRST—because J&L is an integrated producer and is able to control quality from iron ore to finished product. *And*, because every wire, every wire rope and every J&L assembly is thoroughly tested before and after fabrication.

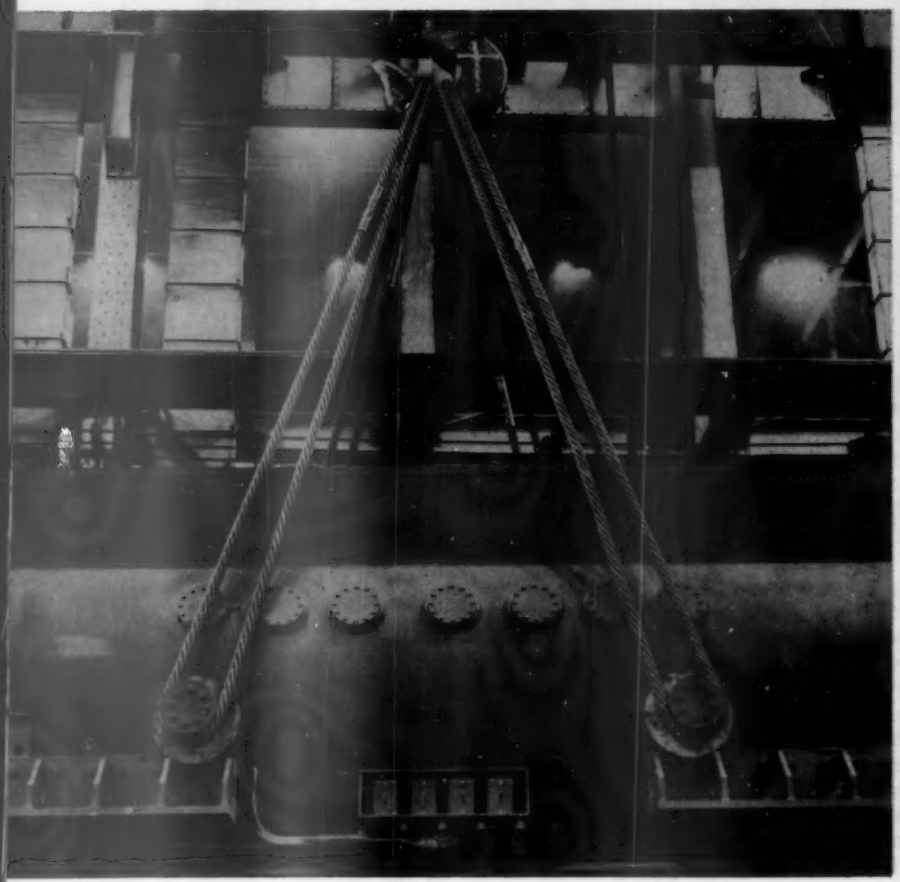
FIRST—because J&L brings to industry the J&L "Safety in Lifting" school which provides in-plant classes and demonstrations to help industry reduce lifting hazards and operating costs.

FIRST—because over 300 J&L wire rope distributors and 16 J&L wire rope warehouses across the nation are equipped to provide the best service and delivery of wire rope, manila, and proof-tested wire rope assemblies.

J&L

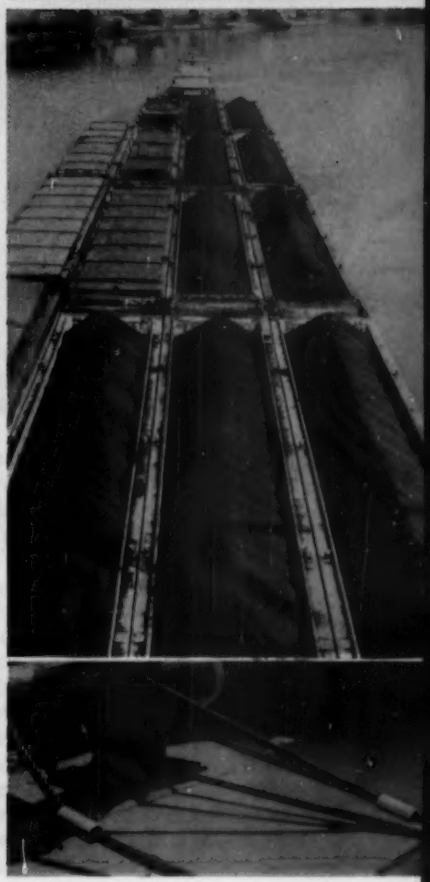
Jones & Laughlin Steel Corporation

WIRE ROPE DIVISION • MUNCY, PENNSYLVANIA



FIRST in engineering the special jobs. Two cable laid grommets, fabricated from J&L's exclusive Centerfit wire rope, are designed to lift a huge 308-ton steam turbine which is valued at approximately two million dollars.

Circle Item No. 8—Reader Service Card



FIRST in the development of new-type assemblies. J&L JalKlamp fittings are presently used by 80 percent of all large barge operators on the inland waterways because JalKlamp assemblies provide greater safety and efficiency.

WIRE FROM WASHINGTON

—From page 10

The committee foresaw an annual budget of 50 million dollars by 1965 to carry out its program, which would include public health inspections in atomic plants, but proposed a starting budget of 2½ million dollars. The AEC announced that in the current year, it contemplated spending 18 million dollars for programs of standards and safety in the atomic radiation field.

S. 1628 (Hill) would carry out the recommendations of the advisory committee and would vest in the Public Health Service the primary responsibility for developing, in consultation with state and local authorities, a program to protect the public health and safety from perils implicit in man-made sources of ionizing radiation.

This bill would establish a National Advisory Council Radiation Hazard Control, to be appointed by the President, and would require the Surgeon General to submit to Congress by February 28, 1960, a comprehensive program for the control of radiation hazards coming from all man-made sources. The bill is not intended to affect the activities of AEC, Defense Department, Food & Drug Administration, or other operating agencies.

The White House announced the creation of a committee, composed of the chairman of the Atomic Energy Committee, the Secretary of Health, Education and Welfare, and the Budget Director, to submit recommendations for organizing the Federal Government's activities for radiological health protection.

The AEC also announced that, hereafter, the public will have opportunity to participate in the consideration of the safety aspects of all reactor projects. Previously, such public consideration extended only to privately-owned projects; the new policy opens to public consideration the safety of reactors owned by the federal government.

Two bills would authorize different federal agencies to indemnify their contractors against nuclear and other unusually hazardous risks: H.R. 4103 (Department of Defense), and H.R. 4148 (National Aeronautics and Space Administration).

Mine Safety. S. 1562 (Cooper and three other senators) proposes to amend the Federal Coal Mine Safety Act to remove the exemption concerning certain mines employing no more than 14 persons (See "Wire," March 1959), and thus make the act applicable to all coal mines, regardless of size.

This bill also adds a new title to the act, directing the Bureau of Mines to make a study of safety conditions of all mines, with special emphasis on the major causes of mine accidents (roof and rib falls), and to study the educational and training program for mine employees on safety measures. A substantially similar bill was favorably reported by the Senate Committee in the 85th Congress.

The Bureau of Mines reported, as its summary of coal mine injuries for 1958, that the over-all injury experience was less favorable than in 1957. Although the number of injuries, fatal and non-fatal, was considerably less, the rate per million man-hours of exposure increased from 43.79 to 48.01, or a 10 per cent increase for all coal mines.

The all-industry rate for non-fatal injuries was 46.87 in 1958, compared to 42.62 in 1957; the rate for fatal injuries was 1.14 in 1958, compared to 1.18 in 1957.

As to railroads, S. 1425 (Magnuson and 14 other senators) proposes to amend the Interstate Commerce Act to protect railroad employees by regulating the use of track motor cars. S. 1232 (Magnuson) and H.R. 5461 (Moulder) would amend the Act to promote railroad safety by limiting hours of service for employees.

Highway Safety. The Commissioner of Public Roads identified, as safety features, these aspects of the interstate highway construction program: control of access, multi-lane divided highways, wide lanes, minimum grades and easy curves.

He called on the states to adopt motor vehicle inspection programs. "Modernization of the Interstate Highway System will literally save thousands of lives and billions of dollars each year," he said. "Some estimates put the price tag as high as 7 billion dollars annually for accident reduction and lowered property damage."

H.R. 4875 (Thomson) would provide that the color of pavement markings on highways shall be determined by the individual states in accordance with "local driving conditions." This bill is designed to permit Wyoming to continue use of yellow markings, in the face of a Bureau of Public Roads requirement for white markings.

Motor Transport Safety. The Senate passed S. Res. 29, as amended, authorizing the Senate Committee on Interstate and Foreign Commerce to make a complete study of transportation, including the need for, and type and character of, federal regulation of transportation. (See "Wire," March 1959).

The ICC's Annual Report renews the Commission's recommendation for the revision of the Transportation of Explosives Act, to make that law apply to contract and private motor carriers the same penalty for violation now applicable to motor common carriers.

Among other recommendations for amendment, the ICC proposes revision of the act to include transportation of etiological agents, such as live viruses and bacteria.

The ICC relaxed its Motor Carrier Safety Regulations to permit use of brake systems designed to make effective automatic emergency application of brakes on towed vehicles equipped with vacuum brakes.

The ICC vacated an earlier rule-making proceeding relating to a provision that all brakes required on trucks and truck-tractors with three or more axles be operative; this was done partly because test and development work conducted by the ICC in cooperation with the U. S. Bureau of Roads and with the assistance of an Industry Advisory Committee had not advanced sufficiently to permit proper evaluation of the proposed changes in safety regulations.

—To page 133

A bright new star on the safety shoe horizon

the **Iron Age**

Satellite STEEL TOE SAFETY SHOE

No. 672
Sizes B 7-13
C 6-13
D 6-13
E 6-13
EEE 6-13

An "out-of-this-wo..." value

In this Chukka styled steel toe safety shoe, Iron Age designers have captured all the classic features of the original from India. Fashion-toned in plump, supple Sierra golden brown *Quilon*® leather, the Iron Age "Satellite" feels as good on the foot as it looks. In fact, it has all the comfort of a dress oxford plus the added protection of a high shoe.

For safety against slipping, there's a Bearfoot Air Cushion Neoprene Grit Sole—comfortable under foot, longer wearing, too.

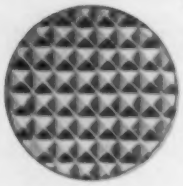
When you stock and show the "Satellite" you are trading on the modern trend towards casual living. Remember, safety knows no season. There's year 'round appeal in this better Iron Age value to help you build your coverage. Ask your Iron Age representative to show you the "Satellite"—or write us and he will see you. Iron Age Division, H. Childs & Co., Inc., Pittsburgh 12, Pa.

Iron Age SAFETY SHOES

Iron Age

ONLY *Balanced-Formula* NEOPRENE GLOVES

have all the safety features that count



NEW EXCLUSIVE
WIL-GRIP
FIRMHOLD FINISH

Better gripping action in wet or dry service.

Greater resistance to oils, greases, petroleum solvents. Longer wearing with better flexibility and less deterioration. Wil-Gard Neoprene gloves are ideal for sensitive skin because they are non-irritating, allergen-free. And Wilson Curved Finger styling provides added hand comfort.

Available in light, medium and heavy weight, Smooth or Firmhold finish. Write for free catalog, or see your Wil-Gard Distributor.

Sold Only Through Distributors

9 QUALITY LINES—*Industrial Gloves;* Soft-lined Latex, Unlined Latex, Natural Rubber, Black Neoprene, White Neoprene, Soft-lined Neoprene, Buna-N. Compar Plastic *Linemen's Gloves;* Natural Rubber

WIL-GARD

wr-650-20

PROTECTION FOR THE HANDS OF INDUSTRY • SINCE 1916

WIL-GARD®

THE WILSON RUBBER COMPANY INDUSTRIAL DIVISION CANTON 6, OHIO

A Division of Becton, Dickinson and Company

Circle Item No. 10—Reader Service Card

news briefs

More on microwaves

This subject is generating more heat than light. As with any new energy source, wild rumors abound. If microwave radiation were as potent as some alarmists would have us believe, the Army would have a handy Buck Rogers type death ray in every radar set. We do know it is the frequencies below 1,000 megacycles that do the most damage. Injury is not instantaneous—it takes sustained exposure to intense sources to destroy tissue. The U. S. Air Force protection standards are followed by the best informed workers in the field.

What say?

Any employee who cannot answer "no" to all the following questions should have a hearing test: 1. Do you have to hold your wrist watch close to your ear to hear it tick? 2. Is it possible for you to hear a dripping faucet in the room? 3. Must you face a speaker to hear him? 4. Do you turn one ear and strain to hear? 5. Is it necessary for you to ask someone to repeat frequently?

Sobriety pays

One large manufacturer reports that its program of rehabilitating alcoholics, in operation for several years, is paying off—$80,000 yearly in reduced absenteeism alone. Employees treated reduced their absenteeism rate from eight to three per cent.

Grinding wheel hazards

Strangely enough, the smallest grinding wheels, those two inches and under in diameter, figure in a great many grinding mishaps. Too many rpm's is the usual trouble. Failure most often occurs at the mandrel. Overhang, or projection from the chuck, adds to the chance of failure.

Radium victims wanted

About 2,000 radium dial painters who were poisoned on the job in the 1920's are the objects of a worldwide search. Information about their present state of health—good or bad—is urgently needed. Knowledge of the effects of radium on the dial painters (and victims of quacks who administered radium water and injections of radium salts) will help in evaluating the hazards of strontium-90 and other radioactive isotopes. Write to the Radioactivity Center, Massachusetts Institute of Technology, Cambridge, Mass.

Ozone again

Retail stores are selling little black boxes that plug in and "purify the air." These are ozone generators. The sales pitch does not include the very grave hazards involved. A concentration of ozone strong enough to kill airborne bacteria is dangerous to humans. It can cause pulmonary edema. Ozone has been receiving attention for reasons other than the renewed sales push for ozonizers. A recently-developed ozone-producing arc-welding process, more high-altitude flying, and detection of ozone in smog have brought it under closer scrutiny.

Gantry crane lockout

Italian safety engineers have worked out an interlock for ladders used to reach gantry crane runways. A grid door built of angle iron must be opened with a key before a workman can reach the cage. The key works only when the power is off.

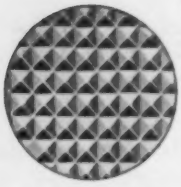
Working retirement

When employees of the Curt Joa Co., Sheboygan Falls, Wis., reach retirement age, they are offered a job at the company's Lake Wales, Fla. plant. Retirees work four hours a day at the Florida plant, which makes the same precision equipment as the Wisconsin location. New employees are sent to Florida to work with the experienced hands. The plan eases the shock of retirement for older workers, and eliminates the training problem in the Wisconsin plant.

Jim Saul

ONLY *Balanced-Formula* NEOPRENE GLOVES

have all the safety features that count



NEW EXCLUSIVE
WIL-GRIP
FIRMHOLD FINISH

Better gripping action in wet *or* dry service.

Greater resistance to oils, greases, petroleum solvents. Longer wearing with better flexibility and less deterioration. Wil-Gard Neoprene gloves are ideal for sensitive skin because they are non-irritating, allergen-free. And Wilson Curved Finger styling provides added hand comfort.

Available in light, medium and heavy weight, Smooth or Firmhold finish. Write for free catalog, or see your Wil-Gard Distributor.

Sold Only Through Distributors

9 QUALITY LINES—*Industrial Gloves;* Soft-lined Latex, Unlined Latex, Natural Rubber, Black Neoprene, White Neoprene, Soft-lined Neoprene, Buna-N, Compar Plastic *Linemen's Gloves;* Natural Rubber

WIL-GARD

WR-858-26

PROTECTION FOR THE HANDS OF INDUSTRY • SINCE 1916

WIL-GARD®

THE WILSON RUBBER COMPANY INDUSTRIAL DIVISION CANTON 6, OHIO

A Division of Becton, Dickinson and Company

Circle Item No. 10—Reader Service Card

news briefs

More on microwaves

This subject is generating more heat than light. As with any new energy source, wild rumors abound. If microwave radiation were as potent as some alarmists would have us believe, the Army would have a handy Buck Rogers type death ray in every radar set. We do know it is the frequencies below 1,000 megacycles that do the most damage. Injury is not instantaneous—it takes sustained exposure to intense sources to destroy tissue. The U. S. Air Force protection standards are followed by the best informed workers in the field.

What say?

Any employee who cannot answer "no" to all the following questions should have a hearing test: 1. Do you have to hold your wrist watch close to your ear to hear it tick? 2. Is it possible for you to hear a dripping faucet in the room? 3. Must you face a speaker to hear him? 4. Do you turn one ear and strain to hear? 5. Is it necessary for you to ask someone to repeat frequently?

Sobriety pays

One large manufacturer reports that its program of rehabilitating alcoholics, in operation for several years, is paying off—$80,000 yearly in reduced absenteeism alone. Employees treated reduced their absenteeism rate from eight to three per cent.

Grinding wheel hazards

Strangely enough, the smallest grinding wheels, those two inches and under in diameter, figure in a great many grinding mishaps. Too many rpm's is the usual trouble. Failure most often occurs at the mandrel. Overhang, or projection from the chuck, adds to the chance of failure.

Radium victims wanted

About 2,000 radium dial painters who were poisoned on the job in the 1920's are the objects of a worldwide search. Information about their present state of health—good or bad—is urgently needed. Knowledge of the effects of radium on the dial painters (and victims of quacks who administered radium water and injections of radium salts) will help in evaluating the hazards of strontium-90 and other radioactive isotopes. Write to the Radioactivity Center, Massachusetts Institute of Technology, Cambridge, Mass.

Ozone again

Retail stores are selling little black boxes that plug in and "purify the air." These are ozone generators. The sales pitch does not include the very grave hazards involved. A concentration of ozone strong enough to kill airborne bacteria is dangerous to humans. It can cause pulmonary edema. Ozone has been receiving attention for reasons other than the renewed sales push for ozonizers. A recently-developed ozone-producing arc-welding process, more high-altitude flying, and detection of ozone in smog have brought it under closer scrutiny.

Gantry crane lockout

Italian safety engineers have worked out an interlock for ladders used to reach gantry crane runways. A grid door built of angle iron must be opened with a key before a workman can reach the cage. The key works only when the power is off.

Working retirement

When employees of the Curt Joa Co., Sheboygan Falls, Wis., reach retirement age, they are offered a job at the company's Lake Wales, Fla. plant. Retirees work four hours a day at the Florida plant, which makes the same precision equipment as the Wisconsin location. New employees are sent to Florida to work with the experienced hands. The plan eases the shock of retirement for older workers, and eliminates the training problem in the Wisconsin plant.

Jim Saul

The Sky's the Limit

This safety record, launched with Space Age fanfare, was still cruising the stratosphere at two million man-hours

HOW CAN YOU make a million and more safe man-hours in a chemical process plant?

Hitch your safety program to a modern idea, such as the current space age, and blast off to success in a rocket.

Simple, yes. Dynamic, perhaps. But it worked and is still working at Kaiser Aluminum & Chemical Corporation's Baton Rouge, La., alumina plant.

The program was launched in April 1958. Since January the 1,200-employee plant had accumulated an unenviable record of six disabling injuries for a frequency rate of 6.90.

The accident trend was considered critical, and one gimmick after another was tried with little result and practically no plant-wide participation.

Finally, the members of the plant's Steering Safety Committee proposed the idea of mounting a 16-ft. rocket on the 75-ft. plant water tower, where employees could watch the missile rise to the goal of one million safe man-hours of work.

The year 1958 was the International Geophysical Year. Television and other news media were reporting activities at Cape Canaveral daily. Perhaps the idea would catch the imagination of plant employees.

And catch on it did. When word of the project circulated through the plant, and while the 16-ft. aluminum rocket was being fabricated, every Tom, Dick, and Harry came forward with a hatful of ideas on how to embellish the program. For example, a rocket-naming contest evolved overnight, resulting in "Kaisasafety Satellite."

Plans for a launching count-down were proposed. It was decided to promote the idea that fuel for the rocket would be the safe man-hours that each individual provided. Safety record rivalry between plant departments disappeared, and everyone scrambled to get into the rocket act. Enthusiasm mounted to the point that even before the rocket was launched, employees felt confident that they possibly could do better than a million safe man-hours.

So a realistic satellite was designed, fabricated, and mounted on the nose of the rocket. As a result of this optimism, plans were altered to include the placing of the satellite in orbit when the rocket reached the top of the water tower and its goal of one million man-hours without a serious injury.

On May 6, with all the seriousness of a Cape Canaveral launching, the Kaisasafety Satellite zoomed skyward. Baton Rouge newspapers

By HOMER K. LAMBIE

Safety Coordinator, Kaiser Aluminum and Chemical Corp., Oakland, Calif.

SANTA CLAUS, wearing hard hat and goggles, rode the "Kaisasafety Satellite" during the holiday season. The fuel which put the rocket in orbit was a million safe man-hours. Counter at the right with flashing red bulbs showed the first two goals had been reached. At the beginning of April, 1959 the fourth goal had been passed and the plant was well on the way to the industry record.

THE SATELLITE went into orbit at 3:30 p.m. September 19, 1958, when the plant passed the million man-hour mark. The rocket, still in orbit at the time of writing, has attracted considerable attention in Baton Rouge.

and television stations, attracted by the timeliness of the idea, featured it with front page pictures and newscasts.

While it appeared certain that the idea had stimulated the safety efforts of employees, the real work of the program actually began at this point. A barrage of safety ideas and gimmicks was thrown into the hopper and promoted with every means possible.

Many were old, others were tired or overworked; these were dusted off, dressed up in the new satellite theme and pushed hard. They included essay contests for employees' children; safety slogan of the day, week, and month; and banners and posters.

Newer ideas included a "Stop & Go" safety slogan contest, including the installation of a stop-and-go traffic light on plant streets.

EMPLOYEES were served coffee and doughnuts upon arrival at the plant on December 10 when Baton Rouge Works passed its previous record.

All of these ideas and programs were promoted heavily through such plant media as a daily news bulletin, a monthly newspaper, and planned "Walk-Talk-and-Listen" communications.

In addition to these promotions, the plant's Housekeeping and Hazard Survey program was expanded. Departmental safety meetings were increased, with renewed interest and participation.

Despite the hot summer months and dog days, when the plant accident rate traditionally increases, the rocket continued to move steadily toward its million man-hour goal. Special attention was given to the arrival at the halfway and three-quarter mark.

When it appeared likely that the goal would be reached, a gala celebration was planned. An aluminum ash tray souvenir was designed and ordered; stick-on labels for hard hats were printed, and a brief ceremony was planned.

On the afternoon of September 29, the one million man-hour goal was reached, and the satellite went into orbit around a motorized globe mounted on the roof of the plant's machine shop.

This occasion was marked by a parading professional Dixieland band, banners, speeches, fireworks, and an appropriate count-down.

Even the most optimistic pre-

—To page 127

VIEW of the academic area. Mountains in the background are Rampart Range of the Rockies.

"You will build an Air Force Academy ON THE DOUBLE"

A veteran construction safety man shows how planning can overcome such obstacles as massive size, adverse weather, and of all things—tourists

NEWEST and largest of the nation's service schools, the U. S. Air Force Academy, is nearing completion on a massive site north of Colorado Springs, Colo.

Its complex, fast-paced construction program has overcome a host of major problems to post an outstanding record, thanks to excellent government-contractor cooperation, maximum emphasis on accident prevention and a carefully conceived safety setup.

The Air Force counterpart of West Point and Annapolis has unfolded quickly on a broad expanse of largely uninhabited cattle country east of the Rampart Range of the Rocky Mountains.

The bulldozers and heavy equipment of four years ago soon were replaced by precision tools as the huge project—called by experts an architectural and engineering milestone—rose from a dream to a reality, creating an educational building achievement without parallel in the world.

The Academy building program, for which Congress has appropriated $136.9 million, has been one of the largest and most intricate in the West's history. Yet its manifold safety problems have been conquered, and as completion nears, officials are chalking up a remarkable standard for comparable jobs.

Among the major safety hurdles:

The site size. Measuring five

miles by seven at their widest points, the Academy grounds were the scene of extremely widespread building activity, making safety supervision difficult at best.

The contracting size. More than 100 prime construction contractors and 400 subcontractors, all pressing toward on-schedule completions and facing tight building requirements, made coordination a big problem and a uniform safety policy hard to carry out.

The project size. More than four million sq. ft. of enclosed floor area, one million cu. yds. of concrete and 18 million cu. yds. of excavated dirt—these were among the accomplishments in the gigantic program, the immensity of which posed tremendous problems in safety and other fields.

The labor force size. Exceeding

—To page 164

HOW MANY LIVES DOES A BIG JOB COST?

GRIM axioms such as "a life for every floor" and "a life for every mile of tunnel" have long been familiar to construction men. A look at this table showing the human cost of six outstanding construction jobs reveals the grain of truth in these semi-superstitions.

THE JOB	LIVES LOST
● Empire State Building	14
● San Francisco-Oakland Bridge	24
● Colorado River Aqueduct	80
● Grand Coulee Dam-Columbia River Basin	97
● Hoover Dam	110
● Panama Canal	1219

WORKERS begin the marble facing of some sections of the academic building, which contains classrooms, laboratories, offices, lecture halls, and other facilities.

CIRCULAR stairway is one of the features of the library. Self-supporting, the stairway makes three full convolutions, one per floor. Here it is being load tested.

WASH UP . . . with what?

Personal hygiene needs a cleanser that removes the dirt but leaves the hide. You can find one that suits most occupations and most skins

WHAT QUALITIES are we looking for in a hand cleanser?

Of course, we want a product that cleans well, is safe for most skins, and is economical and easy to dispense. For industrial use it should:

1. Perform well in available water —hard or soft, hot or cold.
2. Remove most greasy and non-greasy soils quickly and safely.
3. Not cause excessive defatting of the skin.
4. Contain no harsh abrasives or irritant scrubbers.
5. Flow easily through dispensers.
6. Rinse freely and quickly.
7. Resist deterioration in storage.

Some old-timers can remember when the typical plant wash-up facilities consisted of a basin of cold water and a bar of yellow laundry soap—plus a roller towel that served all hands. Skin troubles were not too common then, although there were a few cases of eczema—a catch-all term that used to include every variety of rash and itch. Nobody had ever heard of "allergies."

Perhaps modern living has increased susceptibility to skin diseases. But the skin today is exposed to a great variety of irritants including: acids, caustics, cutting oils, dyes, grease, inks, paints, paraffin, pesticides, petroleum products, pitch, poisonous plants, plastics, solvents, tar and its products, varnishes, wax, and many others. Many of these materials are not new, but some of the new formulas have resulted in products that are more effective—and more irritating.

So the search goes on for cleansers that will remove the dirt and spare the skin—a difficult task since some people are sensitive to even normally harmless substances.

Free lathering doesn't necessarily indicate a good cleanser but most users demand suds. If the cleanser doesn't lather satisfactorily, the user will use far more than is necessary in an attempt to get suds.

A cleanser should have a minimum of free alkali and a pH of not more than 10 in a one per cent solution with distilled water. In the pH scale, 7 is neutral, numbers above that being in the alkaline range.

Many persons are sensitive to alkalies and can't tolerate even small amounts of alkaline salts, which are often put in industrial skin cleansers for heavy-duty cleaning.

Powdered cleansers are the most popular type for industrial use. They are convenient for use in various types of dispensers, avoiding the waste, messiness, and slipping hazards sometimes resulting from bar soap.

Powdered cleansers owe much of their effectiveness to ingredients known as *scrubbers*. They permit a considerable degree of heavy-duty cleaning without alkalies. This cleaning action is largely mechanical.

Organic scrubbers include such materials as corn meal, ground corn cobs, rice hulls, and wood flour. Such cleansers might be said to have a built-in wash cloth.

Only one inorganic scrubber, borax, is widely used at present. It dissolves slowly in water and has scrubbing and detergent action. Being water-soluble, it leaves no residue in the wash basin. Borax is mildly alkaline and is an effective cleanser and safe for most hands.

Sulfonated vegetable oil mixtures are suitable for sensitive skins.

Unfortunately they are relatively ineffective for the general removal of industrial soils. Adding alkalies to sulfonated oils to increase their detergency offsets their principal advantage.

Liquid cleansers have a place in light industries, such as food processing, meat packing, and for first-aid rooms and hospitals. They are less satisfactory when a worker's hands are covered with ground-in grease, carbon, oil, and other stubborn soils. A liquid soap has no mechanical scrubbing action, which is needed to remove embedded soil from the pores and around hair follicles, and to peel back adhesive soils like paint and varnish. A scrubbing element has not been found practical in a liquid hand soap, because it will not remain in suspension.

Cream soaps, somewhat like cream shampoos, are a more recent development. They are of low pH and quite effective for many types of soils. They come in convenient dispensers.

Dispensers for powdered and liquid cleansers minimize waste and aid housekeeping.

Waterless cleansers have been greatly improved in recent years and are now widely used in industry, particularly in public works, public utilities, and transportation. They can be made non-irritating and will remove most types of soil.

Convenient dispensers are available for plant installation to supplement regular washroom facilities, where tenacious soils must be removed from hands. These need no plumbing connections and can be placed anywhere.

Dispensers may also be mounted on highway trucks for use by construction, public utility, and oilfield workers. Waterless cleansers are also packaged in plastic tubes for individual use.

Field workers are often menaced by poisonous plants, usch as poison ivy and poison oak. Use of a waterless cleanser has been recommended as a preventive of poisoning. The active ingredients of these plant poisons are neutralized by mild oxidizing agents. The cleanser is a solvent and decontaminating agent for the irritating oils. It is a preventive, not a cure.

Dispensers for waterless cleansers may be located close to the workplace, an advantage to workers inclined to use the materials of their trade, such as alcohol, turpentine, benzene, naphtha, and chlorinated solvents, for removal of greasy, resinous, and adhesive soils.

As with conventional cleansers, an ample supply of absorbent paper towels should be provided to permit an effective job of skin cleaning.

Germicidal soaps. Washing with ordinary skin cleansers physically removes dirt, grease, oil, and other foreign matter. In the process, many of the germs are removed. Soap emulsifies water-insoluble liquids and suspends solid particles of foreign matter, including bacteria. The mechanical action of scrubbing also aids in dirt removal, but getting rid of the bacteria still poses a problem. Some microorganisms are susceptible to the action of ordinary soap but some, including staphylococci, are highly resistant.

In recent years much research has gone into the development of germicidal soaps. Some germicides, such as mercuric iodide and the phenols, have been found ineffective in non-irritating concentrations.

To be useful for the manufacture of antiseptic soaps, a germicide must be:

1. Compatible with the other ingredients of the soap.
2. Non-toxic to humans and avoid irritations or sensitization of the skin.
3. Non-volatile, so as to remain permanently in the soap.
4. Reasonably priced.
5. Odorless and colorless to avoid imparting odor and color to the finished product.

So far, the material which has best met these specifications is hexachlorophene (G-11). In soap it remains strongly bacteriostatically and bactericidally active. Extensive tests have indicated it is neither an irritant nor a sensitizer.

Liquid soap containing hexachlorophene can be carried in shatterproof plastic bottles that fit into unit pack first-aid kits.

Testing. It's not enough to provide just any skin cleanser. Available products should be investigated and tested to find the one best suited to the job.

Testing involves a variety of factors, including soils and irritants encountered, frequency of use, and number and complexions of users. The season of the year may also be important. Dermatitis is usually more troublesome in hot weather when workers perspire more freely and wear lighter clothing. But it occurs often in winter also, when people take fewer showers and may suffer from chapping of the skin.

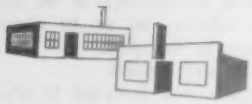
The right cleanser is one that does the job effectively and can be used by a large number of persons over an extended period without harmful effects.

FOR A THOROUGH WASH-UP

The following procedure has been recommended by the Health and Safety Department of Allis-Chalmers Manufacturing Company:

1. Use warm water.
2. Wet hands thoroughly before applying soap.
3. Dispense powdered soap into palms of hands and rub into the skin, using as little water as possible. Wash until all shop soil is gone.
4. In washing, pay particular attention to areas around the nails and between fingers.
5. Rinse hands thoroughly until all soap is gone; then check hands for any remaining dirt. Re-wash, if necessary.
6. Carefully dry all washed parts, especially between fingers, backs of hands and around nails.
7. If, after washing, your skin feels irritated, notify your foreman immediately and report to the shop hospital.
8. Do not use solvents, strong alkalies or harsh abrasive cleansers for washing.

On jobs where there is exposure to paint, varnish, or resinous materials, special cleansers are available through your foreman.



SMALL BUSINESS and ASSOCIATIONS

By A. M. Baltzer and John T. Curry
Small Business Program Staff, National Safety Council

Association Award Announcement

Association members of the Council have received the official announcement brochure and Safety Activity Check List necessary for filing for our Association Safety Award.

As before, 25 per cent credit will be allowed for the reduction of work injuries, and 75 per cent credit for five separate areas of association safety activities.

This year, instead of a special award presentation ceremony at the National Safety Congress, the sections will have the opportunity of including an award presentation at sectional meetings. This should result in excellent publicity for the association, the section, and the Small Business Program.

Participation Up, Injuries Down

The Can Manufacturers Institute *Safety Bulletin* of March 10 shows that injuries dropped in spite of a 10 per cent increase in exposure. The C.M.I. reports a record low injury-frequency rate of 5.1 for 1958—compared to a previous low of 5.9 for 1956 and 1957.

The C.M.I. program is now reaching 80 per cent of its members, and 33 per cent of the participants reported no disabling injuries in 1958. Again, the smaller plants had the higher rates. Those with fewer than 150 employees had a rate twice as high as the plants with more than 600 employees.

$10,000,000 Loss in 1958

The December 1958 issue of *Mechanical Contractor* carried a 3½-page feature article reporting the survey completed by the Council for the Mechanical Contractors Association of America.

The article highlighted the fact that mechanical contractors were losing about $10,000,000 a year because of accidents. Workmen's compensation alone cost the contractors more than $100 per employee per year.

This feature story helps launch a long-range program designed to cut these costs, and thereby increase net profits. It is estimated that a contractor could increase his profit 25 per cent by cutting accident costs just 50 per cent!

Stanley Parsons, general safety director, Carnation Company, Los Angeles, and past chairman, Food and Beverage Section, N.S.C., attaches a Milk Industry Foundation safety sticker to one of his firm's trucks. The bumper sticker reads, "Your Milkman Is a Safe Driver—Drive Carefully, Protect School Children." The sticker is one of various items furnished by M.I.F. as part of its nationwide "Crusade Child Safety" campaign. Lapel badges for driver-salesmen, pledge cards for customer safety, and safety pledge tags for school children also have earned public good will for the foundation's members.

MINDS AND MISHAPS

By KARL MENNINGER, M.D.

We all have occasional lapses, but what's behind those costly, careless moments? We still have much to learn about our unconscious motivations, says a world-famous psychiatrist

YOU HAVE a problem. We all have a problem.

Accidents, I have been told, rank third as the cause of death in the U. S. A. One would think, naturally, that anything ranking third as the cause of death would be the subject of a great deal of scientific research. Cancer is. Pneumonia is. Tuberculosis has been. But are accidents?

I'm afraid not! The amount of scientific research into accidents is extraordinarily small compared to the research that goes into the other causes of death. Research into the factors responsible for suicide, which is of some interest to one part of this company, the Life Insurance Section, is another area in which there is a startling paucity of research.

Indeed, in all of the fields that touch on human motivation, on psychology, psychopathology, psychiatry—there is relatively little research. It is something that we psychiatrists have always been talking about because we not only know it and feel it, but we deplore it. We think more research in these areas would accomplish much for our country and the world.

I have looked up some of the research done on accidents since I wrote something about it in *Man Against Himself* 20 years ago. We were a little startled when we found out how little more was known about the motivation of accidents than we knew then.

I don't need to tell you insurance men that, although your actuarial associates compute the expected frequency of accidents on the basis of chance, actually one cannot explain accidents as products of pure chance. The dictionary does this, but you and I know better. We know that relatively few accidents are wholly accidental. If you want to be statistical about it, the number of accidents ascribable to pure chance must be well below 15 per cent. Accidents are always partly—partly what? If accidents aren't due to chance, what are they due to?

People have always declined—abhorred—to be made responsible for accidents. "Not me!" "Not my fault," we say. Accidents are caused by fate, by hard luck, by inadvertence or ignorance or carelessness or distraction or alcohol.

Scientifically speaking, none of these are explanations; they are only descriptions of some aspects of some accidents. We are all careless at times. Why was this individual careless just at this critical time? What factors in him contributed to that costly careless moment?

Romeos and Hamlets

Was Romeo, the romantic one, a poor fellow in hard luck? Or was he just too impulsive? He was so impulsive that he had just lost one girl before he met Juliet. Then he impulsively picked up Juliet at a party he wasn't invited to, impulsively not noticing that she was *'off limits'* for him. He impulsively got his best friend killed and while impulsively avenging that, he impulsively got himself exiled. Then he impulsively rushed home and impulsively jumped to some impulsive conclusions about Juliet and ended the whole thing in a mess.

All this impulsive aggressiveness can be described as hard luck, or you can just say that Romeo was impulsive, or it can be seen as a persistent self-defeating, self-destructive program.

Shakespeare portrayed another fellow who messed everything up by the opposite technique, by never deciding anything. Hamlet couldn't decide anything, so everybody killed themselves while they were waiting. Now, these *Hamlets* and *Romeos* drive cars, you know. And they kill people. They injure people. They don't exclude themselves from disaster.

You get a hint, now, of what we psychiatrists and psychologists perceive in these cases. It is all right to say, "Don't be careless. Don't take three drinks before you take the car out. Watch for the red lights!"

These are all good rules, but what is the psychology back of the necessity for having such rules? It is just as old-fashioned today to ascribe accidents solely to these conscious motives as it would be to drive the sort of vehicles we used 30 or 40 years ago.

We know today something of the great dominating motivation of individuals, shielded or submerged beneath the surface of consciousness. But the viscera of the mind are just as unbeautiful as the viscera of the body, and you won't enjoy looking at them.

The simplest way to put this, unpalatable as it may be to hear it, is that there is a little murder and a little suicide dwelling in everybody's heart. Give them a powerful weapon like a car, inflame their inhibitions or irritations or frustrations, and diminish their suppressive control by alcohol or fatigue, and the murder or suicide may get committed.

I have a cartoon from one of yesterday's papers in which "Peanuts," I think it was, is charging forward

—To page 60

Condensed from an address before the Insurance Company of North America Conference on Family Security, Disneyland, Calif., January 9-12, 1959.

A CONTRACTOR works on all kinds of jobs. Today his men may be working on beams and trusses 40 feet in the air; tomorrow they may be crawling on their hands and knees in tight quarters.

The Contractor On Your Premises

Here's how one of them meets the safety problems of shifting scenes and changing personnel

FROM A SAFETY standpoint, erection operations of outside contractors in a customer's plant present many varied problems. With the exception of the foremen and a few key men, contractors must hire men locally on a job basis.

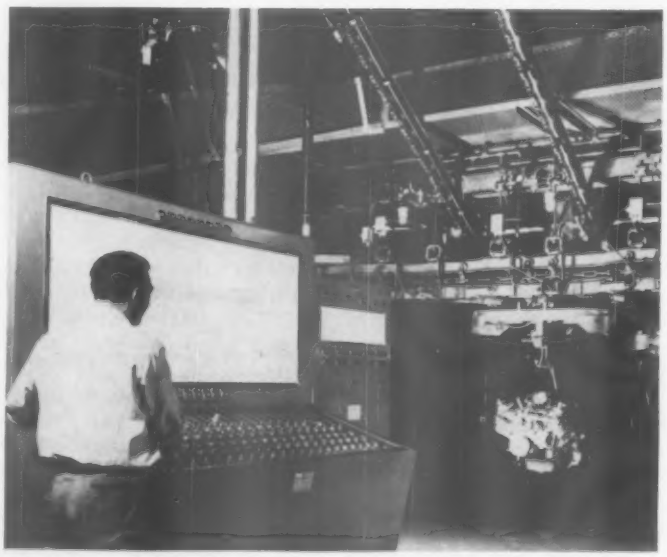
A small job may last only a few hours, while some large contracts may extend over several months. Some of the men may be comparatively green; others may have worked for contractors with varying degrees of safety consciousness.

To get some idea of what a contractor is up against, let us compare his problems with those of the typical manufacturing plant.

By JERVIS C. WEBB
President and General Manager,
Jervis B. Webb Company,
Detroit, Mich.

The plant operates on a more continuous basis, with relatively little turnover. I consider this transient labor situation to be the most serious problem.

With a stable working force a plant can set up a continuing safety program. The company can provide safety glasses, safety shoes, and other items of protective equipment and expect their employees to profit by them. Outside contrac-



AUTOMATION has made work safer for many machine operators but not for men who install equipment, such as this conveyor system.

SAFETY SHOES are needed for feet and ladders.

PORTABLE GRINDERS can cause serious accidents. Goggles for the operator and a guard that slips over the wheel make the work much safer.

tors can only train their field superintendents and foremen in recognizing the dangers involved in working in strange plants.

Because of the expense and changing nature of the work, they are not always able to supply safety equipment to transient workers. When a job may last only a few hours, it is next to impossible to set up safety instruction classes.

Another problem arises when working in different plants and on different types of jobs. When plant employees work in the same area day after day, they become aware of the natural hazards and building characteristics and learn to avoid them. But when a contractor comes to a job, even with the proper equipment, he can only hope to discover some of the pitfalls before he actually falls into them.

A third item, closely related to this point, concerns the different types of jobs a contractor works on from day to day. Today his men may be working on beams and trusses 40 feet in the air. Tomorrow they may be on their hands and knees working on floor conveyors. Next day they may be out in the open working on an entirely different setup with an entirely new set of hazards.

One day a contractor may require a stepladder; next day he may need 20-ft. scaffolding. One location in which men are erecting equipment may have no unusual hazards; another might have serious fire and explosion hazards.

Union cooperation. Outside contractors are doing many things to increase safety in their operations. One of the most important measures currently under way is the establishment of closer coordination between the contractor and the local union through which men are hired.

The steward on the job is made safety man, and it is his duty (as well as the foreman's) to make

—To page 134

HARD HATS, welding helmets and shields, goggles, and insulated electrode holders are indispensable items.

FAMILY night safety meeting at Abou Ben Adhem Temple in Springfield, Mo. Attendance last year was 5,400; 600 were turned away.

NSC's Public Service Award is presented to President Hungerford (at right) by Hal Kent of the Council staff. This award, established five years ago, has been won by Frisco all five years.

On and off the job, labor, management and the employees' families have a common interest in the railroad's safety program. They're . . .

Working Together on the Frisco

ON THE FRISCO safety is a family affair. It reaches through each man's job to his home, his family, his schools, and his community. It unites the Frisco family and harvests a wealth of public good will.

Our first family group safety meeting took place in December 1947 at Thayer, Mo., a modest-sized division-point community on the Missouri-Arkansas border. The Thayer meeeting was something of a test, not only for the safety department on the Frisco, but also for a new concept of safety education which, it was hoped, could be established on the railroad.

Employees had been invited to bring their families and friends to the meeting, which consisted of safety talks, safety pictures, and entertainment provided by the families of employees. After the meeting, refreshments were served. This gave everyone a chance to chat and get acquainted.

A few members of the Frisco official family did not believe the plan would work, and a general chairman of one of the brotherhoods was darkly suspicious of the whole affair. He termed it "just another company-sponsored move."

Another worker said, "All right, I'll come. If you are sincere, my family and I will come back again. If not, we won't ever be back." We are happy to say this gentleman and his family have assisted in all our safety activities at Thayer since that date.

There were only 84 persons present at the meeting. But there is no doubt that those who did attend were convinced that officials on the Frisco were interested in the safety of employees, their families, and the public.

Overflow Attendance

A happy sequel to that 1947 meeting took place at Thayer last year. The attendance exceeded the capacity of the largest hall available,

By ROY P. HAMILTON

Superintendent of Safety,
St. Louis-San Francisco Railway Co.

and as 833 persons watched a now-traditional Frisco family night program, more than 100 others had to be turned away.

Even more significant, those local chairmen who were skeptical at first are now among the most active supporters of the program. And without the wholehearted support of employees and their families, the project would have failed.

Family and school safety meetings should be an integral part of any safety program. If anyone does not believe that management and labor, working together for safety, can achieve a goal, let him visit one of the family group safety meetings at Springfield, Mo.

Here the attendance is always above the 5,000 mark, and often it is necessary to turn away many persons who would like to attend. At these and all other meetings, safety committeemen and their families work closely with the officials of the railroad to make the meetings a success. And they are!

We on the Frisco are proud of our safety committees, and are confident that through their efforts to prevent accidents, there was not an employee fatality on the Frisco in 1958.

Local safety committees have many duties in addition to organization of family night programs. These committees are the prime movers in the Frisco's on-the-job safety program. For this job they have twofold duties—seeking out and correcting physical conditions, and seeking out and correcting unsafe practices.

PICNIC for families of Central Division employees at Ft. Smith, Ark.

This they do tactfully. The committees meet at regular intervals in all shops and terminals and at every division headquarters. Membership is chosen by the employees. A number of these committeemen take an active part in outside safety work. Some have appeared on programs of the National Safety Council's Railroad Section, the A.A.R. Safety Section, and civic clubs.

Each year the president, vice-president of operations, general manager, chief mechanical officer, and chief engineer award two safety trophies each to the departments having the best safety record. A safety committeeman is chosen by the employees to attend the presentation and accept the trophy jointly with the officer in charge of the winning department.

A recent meeting was held in St. Louis on March 24, 1959. This, in my opinion, is a good example of how labor and management can work together for safety.

Letter Testimonials

Each year we receive numerous letters from our employees concerning our safety program. This is one sample:

C. W. Carpenter, locomotive fireman, York, Ala., with 16 years' service—"Like so many others, I think the program we have now doesn't leave out anything that is connected with the interest of safety on the railroad and the home.

"The result, as I have observed with myself and with other men, is that it makes a fellow THINK, and if a man thinks, that is 99 per cent of the battle in going through each working day without serious accidents."

T. N. Poe, brakeman, Amory, Miss., with 16 years' service—"Many changes have been made in steady order through recent years. The finest aspect of the Frisco safety program, I think, is when you find

—To page 58

CEREMONY at St. Louis, Mo. on occasion of trophy award.

THE ACCIDENT BAROMETER

Prepared by the Statistics Division, National Safety Council

THE TREND of accidental deaths in January was upward, compared to 1958. The fatality toll was 7,700, or 4 per cent above 7,400 in January a year ago. There were increases in motor-vehicle, public non-motor-vehicle, and home accident deaths and a decrease in work accident fatalities.

Motor-Vehicle Deaths

The motor-vehicle death total was approximately 2,875, or 4 per cent above January, 1958. Compared to 1957, there was no change. Mileage data are not available at this time to calculate a rate for January on this basis.

For January, 16 states had fewer deaths than in 1958, 6 had the same number and 26 had more deaths. States with the greatest improvement over last year were: Rhode Island, —57 per cent; Montana, —45 per cent; Washington —33 per cent.

Reporting cities with populations of more than 10,000 showed an increase of 2 per cent over 1958. Of the 671 cities reporting, 106 had decreases, 453 had no change and 112 had increases. Cities with more than 200,000 population having a perfect record for January were: Buffalo, N. Y.; Toledo, Ohio; Worcester, Mass.

Work Accidents

There were about 1,200 deaths from work accidents in January, or 4 per cent fewer than occurred a year ago.

Based on preliminary information, the January frequency rate (disabling injuries per million man-hours) in sectional accident prevention contests conducted by the National Safety Council showed a downward trend.

Public Deaths

The January death total for public non-motor-vehicle accidents was 1,100 or 100 more than in 1958. Most of the increase occurred in fatal burns, but deaths from falls and firearms accidents also were more numerous. Fewer deaths resulted from drownings and transportation accidents. There were increases in deaths of children under 15 years of age and persons 45 to 64 years old and decreases among young people 15 to 24 years of age and persons in the age groups 25 to 44 and 65 years and over.

Home Deaths

The home accident death toll for January was 2,700, or 2 per cent above January a year ago. More deaths occurred from poisonings and burns; fewer deaths from mechanical suffocation, firearms accidents, and falls. Aside from a reduction in deaths of persons 65 years and over, all age groups showed increases over last year with the largest change recorded for children 5 to 14 years old.

Fire Control Conference At Purdue University

The sixth Annual Industrial Fire Control Conference will be held at Purdue University June 2-4, 1959. This three-day course is designed primarily for the industrial fire chief and plant fire specialists.

The conference will feature outstanding industrial fire control authorities, lecturers, and moderators. The course of instruction will provide the basic techniques and methods of industrial fire fighting and fire prevention. It will consider the essential fire problems that confront both small and large industrial plants.

For additional information concerning the seminar please address: Prof. Shelby Gallien, Seminar Director, Public Safety Institute, Purdue University, West Lafayette, Ind.

Looking for material for your off-the-job safety program?

Why not try the Traffic Safety Fact Sheets reprinted from the pages of the Council's *Traffic Safety* magazine?

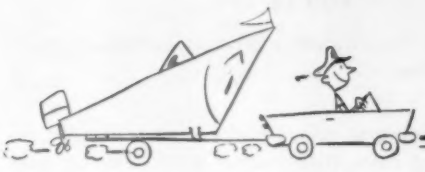
Many industrial safety men have made use of these handy, information-packed sheets in selling off-the-job safety to their company's employees. One of the fact sheets, "What You Should Know About Boat Trailers," is reproduced on the following pages. Reprints are available.

There are 16 fact sheets—and one or two new ones are being added each month. Each of them carries a safety message on a specific subject.

Boat Trailers (329.96-2)
Driver Improvement Schools (329.96-3)
Traffic Law Uniformity (329.96-4)
Use of Turn Signals (329.96-5)
Holiday Hazards (329.96-6)
Your Responsibility in an Auto Accident (329.96-7)
The Man with a License to Kill (329.96-8)
Drinking and Driving (329.96-9)
Vote for Driver Education (Driver Education in High School) (329.96-10)
Stopping Distances (329.96-11)
How to Park Your Car (329.96-12)
Driving on Superhighways (329.96-13)
Children in the Car (329.96-14)
Traffic Courts on Trial (329.96-15)
Is Your Car Sick, Sick, Sick? (Vehicle Maintenance) (329.96-17)
Smart Drivers Use Seat Belts (329.96-18)

Order by title and stock number, e.g. Boat Trailers (329.96-2). NSC reprint prices: pkgs. of 50, $3.90; 100, $5.35; 500, $15.00; 1,000, $28.00. Subject to 10 per cent member discount.

WHAT YOU SHOULD KNOW ABOUT...



BOAT TRAILERS

While spacemen shoot for the moon, American earthlings are beating a super-octane track to the water. By the time they launch jet-styled boats, don water skis, "lungs," and goggles and grab fish spears, they look like something the spacemen might meet on the moon. But America's grounded masses are having fun. In fact, 35 million of them are making boating the nation's top family sport. In 1957 there were 3,360,000 outboard boats in use plus 2,375,000 smaller boats which could be used with outboard power.

Biggest boon to the outboard skipper who can't afford, doesn't want or can't have a mooring spot for his craft is the boat trailer. It will get his boat from the back yard to the water. If you are now—or plan to be—an outboard skipper, you should know these basic facts of boat trailing.

A PERFECT MATCH

Match your trailer to your boat and your car. Look for the Outboard Boating Club of America weight capacity rating and if your boat comes within 100 pounds of it, for added safety, get the next larger trailer. Remember, you'll probably load your boat with a motor, luggage and extra gear.

EQUIPPING AND LOADING

Check your trailer with requirements of your state motor vehicle laws. Special safeguards might be needed. The Uniform Vehicle Code lists the following:

★ TAIL LAMPS—At least one red light visible for at least 500 feet.

★ OTHER LIGHTING — Trailers, weighing 3,000 pounds gross or less, also should have two reflectors, one on each side; if over 3,000 pounds, additional clearance and side marker lamps. All trailers should have stoplight if passenger car stoplight is obscured.

★ BRAKES—Trailers over 3,000 pounds should be equipped with brakes, adequate to control their movement, and operated from the towing vehicle. Brakes should work automatically in event of accidental break away. New trailers for highway use, except semi-trailers less than 1,500 pounds, should have service brakes on all wheels.

★ WIDTH—Total outside width of any vehicle or load should not exceed 8 feet.

★ LOAD—No shifting or dropping allowed; loads must be secure for transport on highways.

READY—CONTACT!

How to get your boat trailer hitched without later losing it on a hill or down a river bank.

▲ For maximum safety use a frame hitch instead of a bumper hitch. The Society of Automotive Engineers recommends use of frame hitch for trailers with a gross weight over 2,000 pounds, but says a bumper hitch is adequate for trailers under that weight.

▲ All couplings should be securely mounted by bolting, welding or riveting. Don't take a chance on a makeshift arrangement.

▲ The SAE also recommends that couplings be equipped with hand locks which won't come apart during travel, and that the hitch be designed so it can be disconnected regardless of angle of trailer to towing vehicle.

HOW TO GET FROM YARD TO WATER

A SMOOTH PORTAGE

To coast securely along waves of concrete and asphalt you should also:

▲Use a hitch safety chain, which most states require by law.

▲Get out and check your hitch and bolt tie-downs whenever you stop for gas.

▲Loosen the tie-downs to reduce strain on your boat if you park for a long time.

▲Make sure your trailer is insured, along with the boat and motor.

LEGISLATION AND SPECIFICATIONS

•Laws governing trailer operations are established by the state. The National Safety Council recommends that the Uniform Vehicle Code be used as a guide by states when drafting legislation on operation and equipment of motor vehicles and trailers. The Code may be obtained from the National Committee on Uniform Traffic Laws and Ordinances, Sheraton Bldg., 711 14th Street, N.W., Washington 5, D.C.

•The Outboard Boating Club of America, composed of leading outboard manufacturers, has developed standards for design and manufacture of boat trailers. Trailer builders have agreed to test their products for up to 50 per cent more than their recommended capacity and document the test with an affidavit to the industry group. Look for the OBC weight rating when buying a boat trailer. For further information, write: Outboard Boating Club of America, 307 N. Michigan Ave., Chicago 1, Ill.

•The Society of Automotive Engineers has published recommended practices for passenger car trailer couplings. For information write to: The Society of Automotive Engineers, Inc. 485 Lexington Ave., New York 17, N. Y.

YOU'RE OFF

To navigate the highway without scuttling your rig—remember:

★If you decide to pass—make sure there are no on-coming cars, then swing wide. Use an outside rear view mirror if the boat blocks vision on the inside mirror.

★Be alert for landlubber pedestrians and jaywalkers who might see your car, but bang into the side of your trailer.

★When stopping, give yourself plenty of space. You've got a trailer and boat to stop, too. Travel slower than usual, practice braking at different speeds.

★Give clear signals if blinker lights are hidden by boat.

You don't need a bottle of champagne to launch your outboard, just a keen sense of direction and preferably a guide standing at the rear of the trailer to call out instructions.

BACKING—*Go slow. Back into the launching site at a right angle. If you want the rear of the trailer to go right, steer left, if left, steer right.*

TRACTION—If the site is natural or unimproved pick a sloping spot hard enough to give your ties a lot of traction. If you're on sand or mud, better traction can sometimes be gained by deflating the tires slightly. But remember to put air back in the tires at the first gas station you see on the way home.

BOATS AWAY—Three steps into the water:

1 Remove the rear tie-downs when a few feet from the water's edge.

2 Tilt the motor up and unlock the bow winch, but keep the boat snubbed tight.

3 Back up until the trailer wheels are an inch or two in the water, *set your hand brake,* put the car in gear, give the boat firm push down the trailer.

IDEAS THAT WORKED

Devices and Ideas to Help Your Safety Program

By Arthur S. Kelly, Industrial Department, NSC

Maxwell House splits stock

. . . with safe employees

TWO YEARS ago we presented a safety contest stock certificate idea which aroused considerable attention all over the country. We had several requests for additional information. Here is another such contest which we think will be equally effective. It was developed by the Maxwell House Division of General Foods Corporation. The contest started July 1, 1958 and will run through June 30, 1959. Here's how it works.

For each week a department works without a disabling work injury, the department receives a stock certificate worth 50¢.

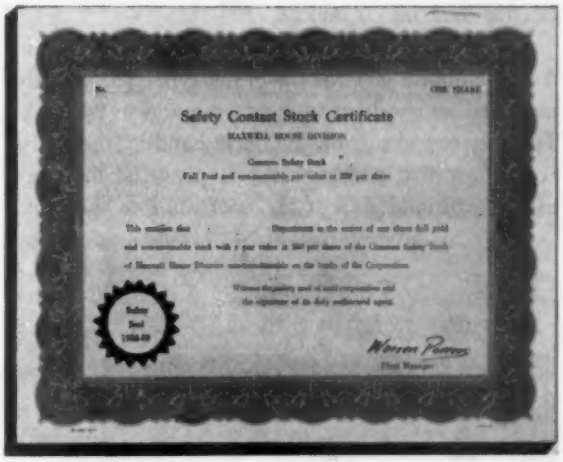
Dividends are paid on this stock at the rate of:

Ten cents for the first 1,000 consecutive safe hours worked. Twenty-five cents for the first 10,000 consecutive safe hours worked.

Fifty cents for the first 50,000 consecutive safe hours worked. One dollar for the first 100,000 consecutive safe hours worked.

This means that if a department works 100,000 consecutive man-hours without a disabling injury it receives a total of $1.85 in dividends for each share of stock held.

There are penalties, however. If a disabling injury occurs in a department, that department will be penalized one month's stock earnings. This means that during that particular month the department could not be awarded any stock or dividends. It would also mean that if an accident should occur in the latter few days of the month the department would lose all dividends and stock certificates previously issued for that month.


Safety Contest Stock Certificate

STOCK certificate used in Maxwell House contest.

THE WINNER IN APRIL

R. H. MULLER of Marathon at Neenah, Wis. was the winner in last month's issue. The prizewinning idea was for an electric interlock to shut off the power to tissue log saws. Opening the door to the saw pulls the plug out of the socket and disconnects the power.

EMPTY frame in lowered position.

FRAME with drum in emptying position.

No squat, no stoop, no splash

HERE is an ingenious and inexpensive idea developed for emptying a 400-pound drum of caustic soda into a tank.

The device consists of a simple frame as shown. An automobile jack, of the crank type, was slightly modified and welded to the frame and to the tank. Turning the crank of the jack handle forces the frame outward and upward. It pivots at the edge of the tank and dumps the contents into the tank.

Prior to the installation of this device, it took several employees to empty these heavy drums—at obvious and considerable risk. The string which looks as though it connects to the left hand member of the device actually is a cord attached to an emergency drenching shower head above.

The machine shop employees of the Hamakua Mill Company, of the Theo H. Davies Company, Ltd., Honolulu, developed the device. It was submitted through John A. Sullivan, industrial relations assistant.

ACE of spades is a good omen here.

Just a friendly game

UP IN Shawinigan, Quebec, Harold Friendly, Du Pont Company of Canada (1956) Ltd., developed a safety contest based on poker that has created considerable interest.

Each week for five weeks, one playing card, upon which a safety slogan has been written, is attached to the employee's pay check. During the period between paydays, two names are drawn at random and the safety coordinator sees these two employees personally. If the employee can quote the slogan on his card correctly, he receives a package of cigarettes. If the employee cannot remember the slogan, another name is drawn until there is a winner.

At the end of five weeks the person holding the highest poker hand is declared the winner. He may claim the prize by answering correctly five questions based on the Maintenance Safety Rules. Each question answered correctly is worth $1.

A NATIONAL SAFETY COUNCIL TECHNICAL SERVICE

DATA SHEET 476

DEMOLITION BALLS

Published by the National Safety Council
425 North Michigan Ave., Chicago 11, Ill.

1. A demolition ball is a heavy metal weight that is lifted by a crane or similar apparatus and then dropped on or swung against an object to be broken.* The hoisting apparatus, having a boom or mast that is either movable or stationary, may be powered by an electric motor or an internal combustion engine.

2. Demolition balls are used in metal scrap yards to reduce frangible metals to shipping or charging size. They are also used in the construction industry to demolish buildings, paving, and other objects.

This Data Sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This Data Sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

Hazards

3. The principal hazards in the use of demolition balls are:

a. Injury from flying fragments or falling debris.

b. Injury from the swing or rebound of the weight.

c. Premature structural collapse due to improper application of the weight or overloading of the structure.

d. Equipment failure: cable break, boom collapse, or tipping.

e. Damage to utilities: pipelines, electric lines, or sewers.

f. Damage to adjacent structures or installations due to vibration set up by the impact of the weight.

General Precautions

4. Every demolition ball operation should be entirely surrounded

FIGURE 1. Reduction of a structure by demolition ball nears completion. Final operation consists of breaking up large chunks of rubble.

*Other names used to identify a demolition ball are "headache ball," "skull cracker," and "frost ball."

at a distance of about 50 feet* by a barricade or other enclosure of sufficient height, strength, and tightness to protect persons working in the vicinity and all passers-by from injury by flying metal fragments or pieces of debris. In some scrap yards, a pit is used instead of a barricade.

5. When multistory buildings or other high structures are to be demolished, the radius of the barricaded area should be a minimum of 50 feet plus one-third the height of the structure.

6. No workman should be allowed in a structure being reduced with a demolition ball. Furthermore, no workman, except the crane operator and signalman, should be allowed within the barricaded area during use of the ball. The signalman should not position himself under the boom, between the crane and a structure being demolished, or in the area over which the boom and swinging weight travel.

7. Members of the public should be kept out of the enclosure, and "Danger—Keep Out" signs should be posted at all entrances to it.

8. When a demolition ball is to be used on structures adjacent to a street, the street should be closed to all traffic until the operation is completed.

9. The operating engineer should be experienced and fully qualified for the work assigned to him, particularly when structures are to be demolished. An experienced operator will not attempt to check the swing of the weight or to add impetus by reversing the boom before the swinging weight has reached the top of its arc. Either act will cause unnecessary torsion and possibly result in collapse of the boom.

10. If night work is necessary, enough light to illuminate the entire operating area should be provided.

Protection of Personnel

11. Protective equipment and clothing (hard hats, goggles, gloves, and safety shoes) as indicated by the job should be used.

12. Reduction of a structure by demolition ball usually develops an excessive dust problem. Respiratory protection may be required for the operator, the signalman, and others in the vicinity. Wetting the debris will help to control the dust, but will cause an icing problem in freezing weather.

Selection and Operation of Equipment

13. Equipment should be carefully selected for the type of work to be done. When the weight is swung, as in wall demolition, it exerts torsion strain on the crane boom not encountered with straight drops, as in metal reduction, pavement breaking, and foundation reduction. Therefore, a more rugged piece of equipment, to handle the same weight, is required for wall reduction operations.

14. The demolition ball should be selected for the piece of equipment on which it is to be used. The weight of the ball should not exceed 50 per cent of the crane's safe working capacity for the boom length used at the maximum operating radius.

15. The boom and the load line (whip line) should be as short as possible, consistent with efficient operation.

16. The weight should be securely attached to the load line in a manner which assures that the weight will not become detached during operation.

17. Outriggers should be used with truck-mounted (rubber-tired) cranes to prevent excessive sway when the boom length is 60 feet or more.

18. During operation, the boom should not be permitted to swing more than 30 degrees from the center line, front to back, of the crane carriage. Excessive boom swing reduces efficiency and leads to loss of control of the weight. As a result, the weight may strike the boom.

19. Cranes should be equipped with boom stops to restrain the boom from whipping back over the cab in case of cable breakage or weight connection failure.

20. Windows in the crane cab or in the derrick engine house should be protected with heavy metal screens.

21. The equipment should be inspected at frequent intervals to detect conditions that might lead to equipment failure. The load line and weight connection should be checked at least twice daily, and indicated corrections should be made. Special attention should also be given to sheaves, drums, and brakes.

Vibration

22. On impact, the falling or swinging weight sets up vibrations which may be damaging to adjoining or nearby structures or installations. This factor is particularly important where the full impact is transmitted directly to the ground, as in pavement breaking and similar operations. Where the structure to be demolished adjoins or is part of a structure that is to be retained, the structures must be completely separated by hand wrecking before the demolition ball is put into operation.

23. Ground vibrations can be calculated, and an engineering study will determine the safe limits of weight and length of fall at which pavement breaking and similar operations can be conducted. Vibrations can also be measured by use of seismic recording instruments.

24. Vibration measuring tests should be conducted by an explosives engineer or someone equally qualified to use the instruments and interpret their recordings. Tests should start at low impact and proceed to greater impacts to reach maximum operating efficiency within safe limits.

Scrap Yard Operations

25. Demolition ball operations in a scrap yard should be located far enough from structures that no damage will result to them from the vibration set up by the impact of the weight. Also, the area should be free of underground utility installations and far enough from power lines or other above-ground installations that there will be no

*Distances, weights, and angles given in this data sheet are approximate and should not be considered absolute. Experience and specific conditions will be the final determining factors.

possibility of contact by the boom or by the whiplash of a broken cable.

26. Usually, in scrap yard operations, the weight is disconnected from the load line at the peak of each hoist and allowed to fall free and uncontrolled. Detachment of the weight is accomplished either by means of a mechanical release device (automatic or manually operated) or by use of an electromagnet which holds the weight while current is turned on and releases the weight as soon as current is switched off.

27. If the weight is held in place mechanically, a safety hook should be used to prevent premature or accidental dropping of the weight.

28. If the release mechanism is operated manually, the operating control should be located in the crane cab or derrick house or outside the enclosure.

Wrecking of Structures

29. In all wrecking operations, certain general safe practices* should be followed. Since every job has its own peculiarities, thorough planning for each individual job is essential.

30. An engineering study of the structure and the surrounding area should be made to determine the need for shoring or bracing the structure to be demolished or adjacent structures. Such factors as protection of the public, disconnection of utility service lines, and removal and disposal of materials should be taken into account.

31. Local ordinances, laws, and regulations should be consulted before work with a demolition ball is attempted. Use of a demolition ball is prohibited in some localities.

32. Removal of salvageable materials should be completed before reduction of a building by demolition ball begins.

33. The demolition equipment should be placed in a position which will be as safe as possible in the event of collapse of the structure. The position can be roughly ascertained by setting the boom at the working elevation and at an angle of 45 degrees to the wall with the weight touching the wall.

34. Demolition should proceed from the top of the structure down. Floors should not be overloaded to such an extent that they collapse and possibly buckle the walls outward. Also, the ball must not be applied in such a way as to cause premature buckling and outward collapse of the wall being worked on or adjoining and adjacent walls.

35. Outward collapse of the wall being worked on will endanger the operator and signalman and the equipment. Collapse of other walls may endanger other workmen and other equipment.

Pavement Breaking

36. Before pavement breaking operations are begun, all buried cables, pipelines, sewers, tanks, vaults, and other underground utilities or structures should be located, and definite procedures should be established to avoid damage to them.

37. In some cases, merely changing to a lighter weight or shortening the length of the drop, thereby lessening the impact and the resulting vibrations, may be all that is necessary. In others, a different method of pavement breaking may have to be used in the immediate vicinity of the utility.

38. The location of buried utilities generally can be obtained from the agency or person responsible for the installation, such as the public utility company, street or highway department, or plant engineer. When such information is not obtainable, one of the commercially available detecting instruments should be used to locate pipelines, cables, and similar installations.

39. Except in the case of sewers

FIGURE 2. Demolition ball being used to break pavement.

*As outlined in *Manual of Accident Prevention in Construction*, Section 3 (Associated General Contractors of America, Inc.); in Standard A10.2, *Safety Code for Building Construction* (American Standards Association); and Industrial Safety Series Pamphlet Con. 5, *Demolition of Structures* (National Safety Council).

and drains, where interruption of service is not possible, buried utilities over which pavement breaking is to be done should be shut off, blanked off, or disconnected.

40. Buried utilities that contain or have contained flammable or explosive material or other harmful substances should be emptied and thoroughly purged or flooded with water or inert gas.

41. If service must be maintained, temporary bypass installations should be made.

42. After pavement breaking has been completed and before service is re-established or permanent installations are reconnected, tests should be made of the permanent installations to assure that no damage has been caused.

43. Above-ground installations, such as power lines, steam lines, and process piping, should be temporarily relocated if continuous service is necessary. Otherwise, such installations should be blanked off on either side of the operating area, and any portion of an installation above the operating area should be removed. In such cases, the operating area should be considered to extend on both sides of the pavement to be broken the full length of the boom plus six feet.

44. Before pavement breaking operations are started on streets or highways paralleled by electric lines or telephone lines which are within the operating area, the utility company should be requested to relocate the lines temporarily or to provide insulation as required.

45. As a general rule, pavement breaking is done most efficiently by breaking away from an edge and along a line with the edge.

ACKNOWLEDGMENT

This data sheet was prepared by the Engineering Committee of the Executive Committee, Construction Section, National Safety Council. It was extensively reviewed by members of the National Safety Council, governmental experts, and representatives of chapters of the American Society of Safety Engineers. It has been approved for publication by the Publications Committee of the Industrial Conference of the National Safety Council.

In Case He Lowers the Boom

INDUSTRY will probably be blamed for a new noise source being heard nowadays. The newest assault on the public's ears and nerves is the sonic boom. It is caused by supersonic aircraft. Seismic survey teams and blasting crews especially are being accused of making the loud, unexpected *crack-crack* sounds caused by faster-than-sound planes.

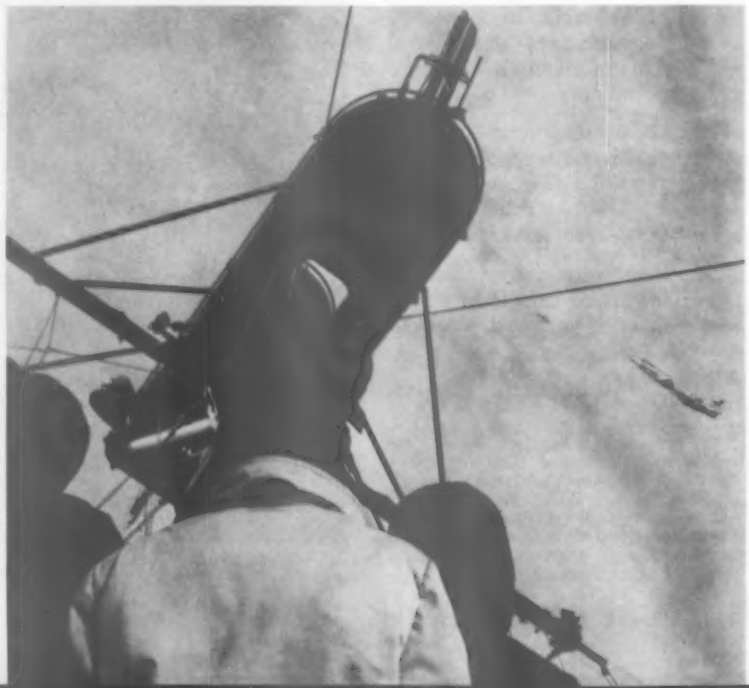
The sonic boom is a pressure wave that extends in a cone shape from an aircraft in supersonic flight. One wave extends from the nose, and another from the tail. Since it comes upon the citizen without warning, he is often highly indignant. Since the .002-in. thick layer of air passing by makes his skin tingle, he often gets the impression he has been lifted off the ground by this seemingly powerful blast. Actually, a slamming screen door makes a much stronger pressure wave, as measured by recording instruments, but the boom sometimes sounds like an explosion, so the citizen inspects his house closely, finds tiny cracks he had never seen before, and immediately wants to sue the nearest industrial operation.

A few years ago, the sonic boom was rare. The first jets had to be dived to achieve the speed of sound, so the sound was localized. Now Mach 1 (760 mph) planes are commonplace, Mach 2 planes are coming out of the plants, and the Mach 3 planes are on the way. This means the boom can be miles wide and hundreds of miles long. The area affected has changed from a pinpoint to a ribbon. One fighter plane in level flight drags a boom fifteen miles on each side. The B-52 is expected to cause a fantastically wide pressure wave a hundred miles to each side.

There are some conditions under which plaster or glass *can* be damaged by the boom. If the plaster is under stress, and is ready to crack with the slightest additional strain, the boom might break it. If glass is mounted with stress locked up in the frame, a little extra pressure might break it. If that pressure comes in the dramatic form of a sonic boom, it quite naturally appears to be catastrophic.

What can we do about it? Get used to it, just as we got used to steam engines, big trucks, fire engines, street car bells, diesel locomotives, and air conditioner motors. It's the price of progress . . . and defense.

NATIONAL SAFETY NEWS editor and 99 other landlubbers gaze skyward as Navy and Air Force planes make repeated passes over the destroyer escort Daniel Joy to demonstrate booms. Scene is 20 miles out in Lake Michigan.



(Fiction)

THE DIARY OF A SAFETY ENGINEER

Serving in the thankless role of referee, our Safety Engineer didn't offer any clear-cut decision. But he hopes he made both sides realize their responsibilities

ON THE SPOT

By BILL ANDREWS

May 1, 1959

THE SUPERINTENDENT of the Hopping Gear and Machine plant was the one who called me, but his only role when I came was to introduce me to three other men: Lukkens, Hopping's vice-president for labor relations; John Karronen, of the union with jurisdiction over the plant; and Kennan Daley, a state mediation board arbitrator.

I was glad to meet them all, for I knew them by reputation, and their reputations were good. At the same time, I wished I was anywhere else than in that room at that time, for it was obvious I was being dropped into a situation of tension and disagreement. Worst of all, I had no advance warning on what they wanted to talk to me about.

Daley led off as soon as the superintendent left us. "For the record, and to be sure we understand each other, have you had any conversation with anybody in the Hopping management about these negotiations?"

I told them that I had not, and that all I knew about the negotiations was what I read in the newspapers. I added, "I hope you will tell me why I'm here. I'm not a party to any contract talks. I'm just an industrial safety man providing an inspection and advisory service to all plants on this project. It doesn't seem to me that I belong here."

Karronen, a tough-looking, beetle-browed man, looked me straight in the eye for a moment before speaking. "I'm suspicious," he said. "But you have the reputation among the men of being a straight talker. Are you dead sure nobody from Hopping has briefed you on what to say to us?"

"I don't think I have anything to say," I replied. "But since you ask, nobody has told me what to say, and nobody has yet bothered to tell me the subject you want me to talk about."

Karronen continued to look at me for a long time, his eyes searching, questioning.

Finally he turned to the other men and said, "Okay, go ahead."

Lukkens, the company's man, said: "Curiously enough, safety has become a prominent issue in our contract talks. The Hopping plant in New Jersey has had a long and distinguished safety record. When we opened this midwestern plant, the union was suspicious of our motives—felt that perhaps we planned to cut labor costs and reduce welfare and protection standards. After opening here last fall we had some bad luck, as you probably remember."

Karronen growled, "It wasn't luck. It was criminal negligence. Three permanent disabilities in three months."

Lukkens snapped, "I don't concede that. Accidents happen, whether you have a plant in the Midwest or New Jersey."

Kennan Daley intervened. "Gentlemen, we hardly need to argue the case before our safety engineer friend. We called him in to get information, not to win him to support a cause."

I sat waiting. Lukkens started again. "Sorry. I'm as anxious as anybody to straighten things out, and Kennan's quite right. We aren't arguing this point before you. Briefly, and John can correct me if I'm wrong, what we want is your frank appraisal of the situation in the shop here. Is management doing a conscientious job of accident prevention?"

Karronen said, very quietly, "I don't care much about conscientiousness. I care about results. How many more of my boys are they going to cripple?"

I was getting tired of being put on the spot. "I don't think I can answer Mr. Lukkens' question, because I'm not a moral theologian. How conscientious do you mean? How high is up? And I'm not going to answer Mr. Karronen's question either, because I'm not a fortune teller. You can't seriously expect me to project a rate of severe accidents on the basis of seven months' experience with three occurrences."

Karronen made a gesture of dis-

—To page 123

1. In-Use Safety Test: To measure vapor concentrations of various cold cleaning solvents on the job, Du Pont uses sensitive Davis Halide Meters. The sample tube strapped to the forehead of technician (above) measures amount of solvent vapors that pass nostrils during typical cold cleaning operation. Tests such as these were used to obtain reliable evaluation of various cold cleaning solvents and to show "safety-in-use" features of "Perclene". (See #2.)

Nose-Level Concentrations for Typical Cold Cleaning Operations Using "Perclene" Perchlorethylene

METHOD	OBJECTS CLEANED	AV. VAPOR CONC. PPM	% OF MAC† (200 PPM)
Immersed with Agitation	Aluminum plates 2" x 10" x ½"	102	51
Dipping	Cast-iron nipples 2" diam. x 8" long	19	10
Hand Wiping	Galvanized sheets 10" x 32" x 1/16"	57	29
Hand Wiping	Painted metal lockers (lightly soiled)	98	49
Hand Wiping	Painted metal lockers (heavily soiled)	165	82
Brushing	Aluminum plates 2" x 10" x ½"	108	54
	Average	92	46

†As recommended by American Conference of Governmental Industrial Hygienists, 1958.

2. Condensed chart from Du Pont technical report shows results of air tests taken during typical plant cold cleaning operation. Note that average for all tests, 92 ppm, was well below the MAC of 200 ppm. This does not imply, however, that perchlorethylene or any other cold cleaning solvent should be used without observing the fundamental safe practices for handling organic solvents. For a copy of Du Pont's complete technical report use the coupon below.

Du Pont tests show...

Why Perclene® perchlorethylene is

SAFETY IN USE—Industrial hygienists have found that the most reliable way to evaluate the safety factor of cold cleaning solvents is to measure vapor concentrations in the atmosphere *under actual working conditions.* Plant tests (illustrations #1 and #2) made on a variety of cold cleaning operations showed that with "Perclene" perchlorethylene average vapor concentrations stay consistently below its maximum allowable concentration of 200 ppm*. Key to this safety factor is the efficient evaporation rate of "Perclene".

EXTRA ECONOMY—The efficient evaporation rate of "Perclene" cuts on-the-job evaporation losses and helps extend the cleaning life of the solvent. (See illustrations #3 & #4). In addition, "Perclene" is easily recoverable for economical reuse, and solvent losses from distillation are generally less than 5% of the soil removed.

OTHER ADVANTAGES—"Perclene" has the unique advantage of evaporating fast enough for dip and spray work—yet slow enough to cut and loosen soil effectively in hand-wiping operations.

In cold cleaning mixtures "Perclene" can be used to raise flash points and obtain uniform evaporation characteristics.

*Established for perchlorethylene by the American Conference of Industrial Hygienists (1958)

3. Cuts Evaporation Losses—Lowers Costs—Photo shows result of evaporation test comparing "Perclene" with another leading cold cleaning solvent (methyl chloroform). (Note line at top of each beaker.) The two beakers were placed under a laboratory hood and allowed to stand overnight at room temperature. "Perclene" loss (right) is substantially less, reflecting the advantages inherent in its efficient evaporation rate. Reduced evaporation losses save you money!

4. Advantages In Hand Wiping—This metal shield was heavily coated with oily dirt. The left portion (note cleaned area above weld mark) was wiped with rag full of a methyl chloroform (1,1,1-trichloroethane); the right, with an equal amount of "Perclene". Note how much further "Perclene" goes. This is because "Perclene" evaporates slower and keeps the rag wet longer to remove the soil. Hand wiping with "Perclene" requires less labor, too.

the ideal cold cleaning solvent

In addition to the advantages of extra economy and safety in use, "Perclene" also offers:

- Nonflammability
- Stability
- Safety for delicate metals
- Fast solvent action
- High chemical purity
- Narrow boiling range

Check these "Perclene" advantages for *your* cold cleaning operations.

PERCLENE®

PERCHLORETHYLENE

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

▶ For more detailed information—send for Du Pont's *Technical Report* on Cold Cleaning Solvents. For your copy, just contact your Du Pont distributor of "Perclene" or mail coupon below.

NS-5

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department—Chlorine Products Division
Wilmington 98, Delaware

Please send me a copy of Du Pont's Technical Report on "Perclene" and other cold cleaning solvents.

*Name*_____ *Position*_____

*Firm*_____

*Address*_____

*City*_____ *State*_____

Circle Item No. 11—Reader Service Card

. . . Or will the HEAT beat you?

Man's normal adaptability to his surroundings is aided by personal and environmental hygiene

HEAT is a perennial problem for industry and the individual on and off the job. For most industries, the effects are seasonal, but on hot processes they may persist throughout the year.

Providing a working environment with comfortable temperature, humidity, and air circulation is often complicated and expensive. And it is much more difficult to temper summer's heat than winter's cold.

Many a person returns to work after an evening of poor eating and sleeplessness and undergoes more punishment from heat and humidity in the workplace. In a prolonged heat wave, the cumulative effects on the plant's efficiency and the individual's well-being can be serious. Fatigue, stomach upsets, and low morale often result, and in extreme exposures heat exhaustion and cramps may occur. Adaptability to temperature changes varies quite widely among individuals.

Fifty years ago it was believed that drinking ice water caused cramps, so many companies simply served the water warm and unpalatable (often from a community cup or dipper). Workers contributed their own tonics: oatmeal water, tea, lemonade, cream of tartar, and beer. Some of them helped—at least psychologically.

Nobody knows just where and when salt was first used to counteract the effects of heat. Perhaps it originated with the practice of salting beer. But about 1926 medical men were treating cramps among steel workers with prepared salt solutions. Salted drinking water is still used in some industries, usually under medical supervision. The more popular method of dispensing salt is in 10-grain tablets in neat metal or plastic dispensers in the plant and in individual packages for field crews.

Investigation has uncovered a good many facts of help to heat-fighters. Such information includes:

1. Man works best in temperatures of 60 to 70 F, relative humidity of about 50 per cent, and in air supplied at 45 to 50 cu. ft. per person per minute.

2. A worker sweats from 1 to 6 quarts per day on the job. Additional water lost through urination and breathing may make this a range of 3 to 10 quarts daily. (But his intake of water under working conditions often fails to compensate for loss of body fluids and salt. This is important, since 70 per cent of the body's weight consists of water.)

3. Susceptibility to respiratory infections—not restricted to seasons—is raised by intense radiant heat, sharp changes in temperature, and a steamy atmosphere.

4. Prickly heat rash can occur after several days' exposure to temperatures of more than 85 F and humidity near 100 per cent—accompanied by continuous sweating at night.

And much more. But out of this mass of fact have come some sound recommendations:

Working Temperatures

Usually, for light work in offices and factories, summer temperatures of 75 to 82 F for men, and 78 to 85 F for women, should be maintained. For heavy work throughout the year, 60 to 65 F for men and women will be adequate.

Keep relative humidity in summer less than 50 per cent, especially at temperatures of more than 80 F. Humidities become critical at temperatures approaching normal skin heat (94-95 F), when almost all body heat must leave by perspiration. Air at 95 F may be endured when it's dry, but when saturated, it may cause heat prostration.

When severe heat exposure is unavoidable, medical experts suggest reduced work rates, fewer hours on the job, rest periods (during which workers are cautioned to escape chilling), and use of such mechanical aids as fans and air conditioning units.

Air conditioning, while desirable, may prove expensive for many operations. But where the space to be

—To page 137

HOW BODY LOSES HEAT

	%
Radiation, conduction from skin	73.0
Evaporation from skin	14.5
Vaporization from lungs	7.2
Expired air	3.5
Urine and feces	1.8

TYPICAL SCHRADER SIMPLIFIED VALVE DESIGN

. . another reason why your air system installations will perform best.

A—Mounting holes always conveniently located.

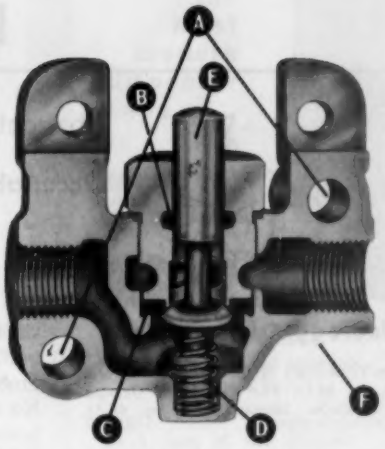
B—"O" rings used for surest airtight seal.

C—Oil-resistant synthetic rubber used in washers for positive leakproof seat.

D—Stainless steel springs: rust resistance, longest service life.

E—Sturdy plated plungers, quick acting, smooth-operating.

F—All parts designed for greatest air flow, longest life and simplicity of replacement and interchangeability.



INSIDE EVERY SCHRADER VALVE YOU CAN SEE SCHRADER QUALITY

Plus hundreds of Air Cylinders and accessories for every need

Send for Schrader Catalog on full line of air control products.

Schrader® a division of SCOVILL

A. SCHRADER'S SON • *Division of Scovill Manufacturing Co., Inc.*
452 Vanderbilt Avenue, Brooklyn 38, N. Y.

QUALITY AIR CONTROL PRODUCTS

Circle Item No. 12—Reader Service Card

INDUSTRIAL HEALTH

Abstracts of current literature on

Occupational Hygiene, Medicine, and Nursing

By E. L. ALPAUGH, Industrial Hygienist, NSC

Toxicology Of Boranes

"The Toxicology of the Boranes." George Roush, Jr., M.D. *The Journal of Occupational Medicine*. January 1959, pp. 46-51.

KNOWLEDGE concerning the toxicology of the boranes has increased greatly in the eight years since the first boron hydride poisonings were reported.

Diborane is the only boron that is a gas under normal temperature and pressure, and hydrolyzes rapidly in water to produce boric acid and hydrogen. It has a distinct odor, *sickening sweet* or *rotten eggs*, and is not only easily recognized but will cause prompt symptoms of distress, such as chest tightness, cough, and headache.

Workers will usually have brief exposures, because they leave the area quickly. Diborane is capable of causing severe pneumonitis. Because diborane is rapidly converted to boric acid, biological samples cannot be analyzed for dioborane. Neither is a monitoring device available that will monitor air concentrations.

Pentaborane and decaborane have similar chemical actions, except that pentaborane hydrolyzes faster in water than does decaborane. Pentaborane and decaborane may be inhaled, ingested, or absorbed through the skin. Animal studies suggest various hypotheses for the toxic effects of these two chemicals.

The little clinical experience available on human exposures is varied, but the initial symptoms of poisoning are lightheadedness, drowsiness, headache, extreme fatigue, or muscle spasms. Symptoms may occur in a short time after exposure, or they may be delayed as long as 24 hours.

The amine boranes (dimethylamine borane, trimethylamine borane, and pyridine borane) are stable and hydrolyze slowly. If taken orally, dimethylamine borane is probably as toxic as decaborane. No case of poisoning by the amine boranes has been reported.

Medical treatment of borane poisoning is nonspecific. Various treatments are suggested. The odor of diborane is first detectable at about 3 parts per million. That for pentaborane is 0.8 ppm, with the odor described as similar to that of garlic or acetylene.

Decaborane has a median detectable odor of about 0.7 ppm, and the odor is described as *chocolate-like* or *unpleasant*. Since the maximum acceptable concentration for diborane is 0.1 ppm, one can be sure the maximum acceptable concentration is being exceeded if he is able to detect the gas by its odor.

Studies indicate that a silica gel absorbent in gas masks is the most effective for decaborane. Hopcalite has been found effective for diborane, and activated charcoal effective for pentaborane. Although canisters containing these three chemicals are available, the maximum concentration against which the canister will be effective is not known.

It is not possible to predict the life of the canister at various concentrations. It is suggested that a rebreather-type respirator or an air line mask be used when concentrations are high.

Protective clothing consists of long-sleeved clothing and eye protection. When there is a chance of spills, rubber gloves and a face shield are used. It is also possible to use a 3 per cent aqueous ammonia solution to wash off skin contamination from a spill.

The complex formed when the borane mixes with the ammonia solution is also toxic, but can be removed by vigorous washing. As an added precaution, only those who pass a vigorous physical examination are allowed to work with these chemicals.

New York Code on Radiation Protection

"Administrative Experience with the New York State Industrial Code, Rule No. 38, on Radiation Protection." *The Industrial Hygiene Review*. Department of Labor, Division of Industrial Hygiene, State of New York. Vol. 1, No. 1, December 1958.

NEW YORK STATE Radiation Protection Industrial Code, Rule No. 38, has been in effect in New York for more than four years. This report reviews the experience of the New York State Division of Industrial Hygiene in administering this code and presents an evaluation of the effectiveness of the code.

There is a short discussion of the need for such a code, the formulation of the code, and the methods used to implement it. Registration and field data presented, as of July 1, 1957, indicate 3,130 sources of radiation-producing equipment. Of this number more than 50 per cent were radioactive static eliminators.

The quantity, in curies of radioactive materials, was 40,152,378. The largest number of industrial users were found in chemical and allied products. The distribution of registered uses in various industries showed some 322 industrial uses were, in effect, in the manufacturing industry. This included such fields as primary metals, fabricated metals, electrical machinery, and instruments.

In 81 firms where it was expected that radioactive sources might be used, 17 firms were found to have unregistered sources. The code has established standards of performance, generally complied with by industry, particularly regarding dose limits. The code has proved effective as a mechanism for control.

Who's wasting Skin Cleanser?

Everybody does! Dispensers, that do not have adjustable cleanser feed, waste powdered, granulated, cream and paste skin cleansers every hour of the work day. Workers get more skin cleanser than they need and promptly wash the excess down the drain. THIS WASTE COSTS MONEY!

With PAX Completely Adjustable DISPENSING EQUIPMENT skin cleanser wastes are eliminated. Dispensing equipment in every section of your plant is easily and quickly adjusted, either by your own maintenance men or by PAX-trained experts to give "just right" servings of skin cleanser for the soil encountered. Workers get satisfactory wash-ups every time but waste is reduced to the vanishing point.

Many *hundreds of thousands* of PAX Dispensers are serving in industry today . . . many of these have been in use for several decades! PAX DISPENSERS are RUGGEDLY CONSTRUCTED for years of smooth, dependable, trouble-free, clog-proof service.

Your PAX REPRESENTATIVE will be glad to demonstrate the many plus features of PAX DISPENSERS and how they can save money in your plant. Write today!

PAX F-2H

for GRANULATED OR POWDERED SKIN CLEANSERS

with the money saving adjustable cleanser feed.

Handsome, rugged dependability! Smaller in capacity than the PAX C-P but just the right size for many industrial and office washrooms. Their heavy gauge steel construction and simple non-clog mechanism has made them a favorite for many years. The PAX 2-H for two hand operation has all of these features: easily filled, top locked with key . . . tamperproof, Ob-ser-vision window, non-sifting . . . keeps washbasins neat, completely adjustable soap feed, easily mounted on any type of wall as well as pipes, wash-fountains and wash bowls. Rust-proofed, heavy chrome plate or baked enamel finish. Also available in the (1-H) one hand operation model having all of the above features.

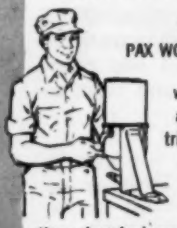
the most modern dispenser made . . . the

PAX C-P

DISPENSER

with the money saving adjustable cleanser feed.

- **MULTI-PURPOSE** . . . easily dispenses all 3 types of skin cleansers — CREAMS, PASTES or POWDERS. Changes in skin cleansers do not obsolete your modern PAX equipment.
- **EASILY FILLED** . . . WITH NO SPILLS! The essence of modern material handling! The PAX C-P reloads in seconds. Dispenses creams and pastes from 1 gallon throw-away cans and powdered or granulated skin cleansers are dispensed from a 1½ gallon, top loading, canister instead of the one gallon throw-away can. The same dispensing mechanism is used for all three types of skin cleansers.
- **GIANT CAPACITY** . . . Handles up to 10 times more skin cleanser than conventional dispensers . . . drastically cuts the cost of maintenance labor.
- **POSITIVE CUT-OFF VALVE** . . . THE PAX C-P WILL NOT DISPENSE UNLESS THE HAND IS UNDER THE DISCHARGE VALVE. Contents will not drip or sift . . . keeps washrooms neat.
- **REALLY TROUBLE FREE** . . . always works . . . never gets out of order. Has no vacuum, piston, loading springs or diaphragms that generally cause trouble and breakdowns.



THE PAX C-P with the PAX WORK BENCH BRACKET provides "Waterless" wash-ups at the work area. Stops needless trips to the washroom. On the basis of 10 workers the PAX C-P pays for itself every three days by increasing productive time.

The PAX C-P Dispenser is protected by patents or patents pending.

It costs money to be without MODERN PAX DISPENSERS!

For the finest in Skin Cleansers use PAX-LANO-SAV Granulated Skin Cleanser (Heavy Duty) or PAX WATERLESS Pharmaceutical Grade or PAX-SOLV or SUPER PAX-SOLV Waterless Skin Cleaner.

RESEARCH - PROGRESS integrity PAX VALUE - SERVICE

G. H. PACKWOOD MANUFACTURING CO.

MANUFACTURING CHEMISTS

1541-61 TOWER GROVE AVE. ST. LOUIS 10, MISSOURI

PAX

LOOK for the PAX ROOSTER and the PAX SEAL . . . the hallmarks of the finest dispensers for over 30 years.

59-D

Circle Item No. 13—Reader Service Card

An Accountant Looks at Accident Costs

And offers some hints on plugging the holes in safety programs

I'M NO EXPERT, no engineer—just an accountant who became alarmed when our self-insured workmen's compensation program failed to produce the expected savings.

A little more than a year ago we were analyzing our accident costs, trying to determine why they were so high and where we had failed. The investigation pointed out what you would expect: we were having too many accidents, and the cost came high.

Since we were self-insured, the bills incurred with doctors, hospitals, and compensation for lost time were being paid directly by us, with our own hard-earned cash.

Everybody knew that. Yet it was obvious we were not placing the same value on this item as we were on production methods and other areas of overhead costs.

Our investigation pointed out to us that we had been talking too much to ourselves and we were not accomplishing any results. A new approach was necessary.

We decided to issue a bulletin pointing out the cost of accidents and directed it to management at all levels. The bulletin was titled *Safety Makes Cents* and read as follows:

It is apparent we are not taking a serious attitude toward safety in our plants. Our accident record for the past two years certainly cannot be referred to as a success—in fact, it stinks.

As you know, we are self-insured for accidents which occur while you are at work. In other words, your company pays the doctor bills, the hospital bills and weekly compensation to employees injured while at work. The more accidents we have, the more money we spend—fewer accidents, less money spent.

We like to believe all of you are cost conscious—trying to keep your labor costs in line—overhead costs at a minimum in every department—selling costs and administrative costs within the budgets assigned: Therefore, let's examine where a substantial savings can be realized if all of us will do our part.

Safety Is Big Business. The first nine months of this year we spent $39,533 to repair broken bones, to sew up cuts and other general repairs to the bodies of our employees. This figure certainly should astound you—in fact, it scares us. It is reasonable to assume that 75 per cent of this amount was paid for careless accidents. *Safety does make cents,* don't you agree?

During this period we had 246 accidents. This is 1.3 accidents per day at a cost of $146 per accident. These figures do not include the value of the lost production, the first seven days of pay where lost time is involved, and the time paid for going to the doctor's office. Adding these factors, our accident cost for the nine months could be $200,000. Looking at figures like this, *safety makes dollars.*

We expect each of you to become safety-minded *now.* Start a safety program in your own department—eliminate this unnecessary expense.

By PAUL J. BURCH

Assistant Treasurer, Stark, Wetzel & Co., Indianapolis, Ind. Before the Meat Packing, Tanning and Leather Products Section, Forty-sixth National Safety Congress, October 21, 1958.

They All Got Busy

The immediate reaction was just what we had hoped it would be: top management got into the act; division managers got into the act; in fact, everyone began talking about the cost of accidents. That figure of $200,000 sure looked like a giant to them.

Things began to happen. A new look at our over-all safety program was taken. Revisions were made in the safety committees. More definite rules were adopted. Now it was evident we were becoming serious about our accident problems.

Weekly tours of our plants by the safety committee were made a must. Recommendations by them for plant improvements were given top priority by the maintenance division. All accidents, no matter how small, were investigated and reports made to management. Unsafe acts were investigated and people involved were called in. We discussed these acts with them, pointing out what did happen or could have happened.

This approach soon had its effect. Our people in production, as well as supervision, realized we were serious about accidents, not only from a standpoint of costs, but also their own physical welfare.

Our first bulletin was so successful that we have made it a monthly form of communication and expanded it to include all employees where possible. In these bulletins we have reported on current month happenings, as well as giving them a year-to-date record of the cost of accidents by plants.

We have made it a point to discuss in these bulletins serious accidents which happened during the month, elaborating on where the accident happened, how it happened, and what it cost their company, always reminding everyone that the average cost of an accident is measured by multiplying by five the actual monies paid out to determine the cost of an accident.

We are happy to report the frequency rate of accidents has steadily improved and our cost of accidents this year shows an improvement of 36 per cent. If this continues for the balance of the year it will be a reduction of overhead expense of $20,000. Here again multiply this by five and it will mean a saving of $100,000. It would take a lot of sales dollars at the rate of the earn-

—To page 54

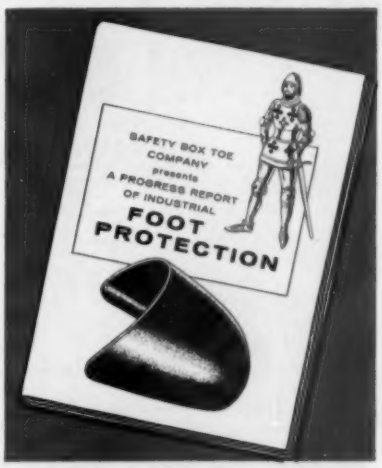
THE BIG SQUEEZE IS ON!

No doubt about it . . . you wouldn't let such a character loose in your plant for all the tea in China. But stop and think a moment and you will realize he is just as well off *barefoot* as he would be wearing *regular* shoes. He would still be a dead pigeon! Leather alone offers no protection when THE BIG SQUEEZE IS ON.

REMEMBER . . . It's the *steel toe* that makes a shoe safe. You can always rely on the new improved WINGUARD steel toes to give your workers the maximum protection and comfort in their safety shoes.

There is a specific safety shoe designed for every industrial purpose and your safety shoe supplier will be glad to help you make the right selection for your worker's needs.

Write today for your illustrated copy of
A PROGRESS REPORT OF INDUSTRIAL FOOT PROTECTION



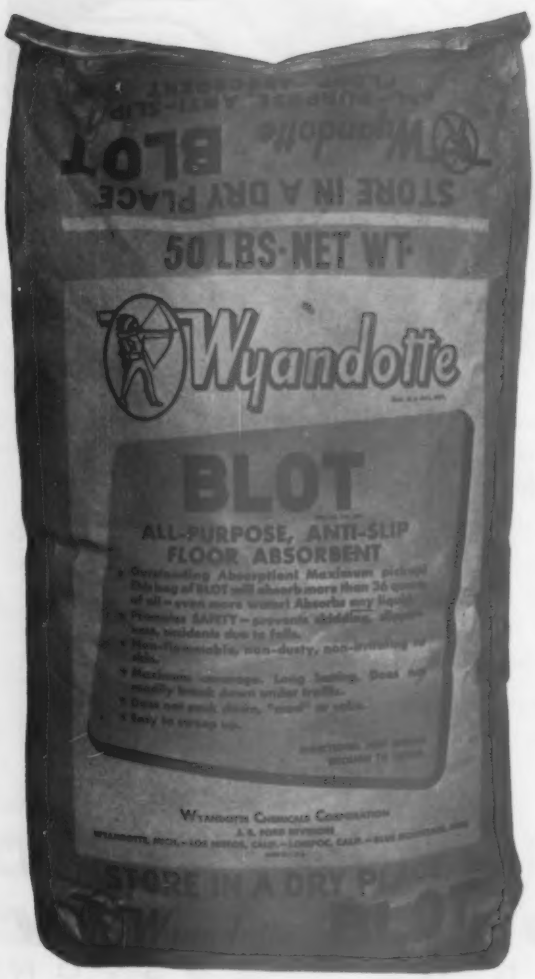
Safety Box Toe Company

812 STATLER BUILDING · BOSTON

Circle Item No. 14—Reader Service Card

CHOOSE THE FLOOR FITS YOUR

Wyandotte BLOT® provides rapid absorption



Whenever you want to remove oil, grease, water, or other liquids — and do it fast — you need BLOT. No floor absorbent works faster — and only BLOT combines all these other advantages:

- BLOT has tremendous absorption . . . absorbs 150% of its weight of oil, 170% of water.
- BLOT gives maximum floor coverage . . . covers about 25% more area than ordinary absorbents.
- BLOT is safe . . . nonflammable, non-glare, and does not become slippery when wet.
- BLOT is easy to use . . . does not mud, cake, or dust — sweeps up easily.

Whatever your floor-absorbent needs, Wyandotte can fill the bill . . . with BLOT, or ZORB-ALL. Each for its particular purpose is the safest, lowest use-cost floor absorbent you can buy. Compare them.

For a demonstration, call your Wyandotte distributor or representative today. Or, if you prefer, write us direct for details. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Nietos, California and Atlanta, Georgia. Offices in principal cities.*

ABSORBENT THAT EXACT NEEDS

Wyandotte ZORB-ALL won't break down

If you leave your absorbent on the floor, ZORB-ALL's unequaled resistance to breakdown assures greatest safety. Abrasion-crush tests prove ZORB-ALL remains effective more than twice as long as ordinary floor absorbents! What's more:

- ZORB-ALL's rugged, angular particles offer maximum skid resistance . . . assure safe stops with heavy equipment when competitive absorbents fail.
- ZORB-ALL holds up under heavy traffic or extremely wet conditions without mudding, caking, or dusting . . . doesn't shift, scatter, track, or blow.
- ZORB-ALL is nonflammable.

50 LBS. NET WT.
Wyandotte
ZORB-ALL
The Safest Floor Absorbent
RESISTS BREAKDOWN - REMAINS SAFE IN USE
ALL PURPOSE: ABSORBS OILS - GREASES - WATER - CHEMICAL SOLUTIONS - PAINTS - FOOD WASTES
GIVES SAFETY UNDERFOOT AND FIRE RETARDING PROTECTION
DOES NOT HAVE ANY CHEMICAL ACTION
STORE IN A DRY PLACE

Wyandotte
REG. U. S. PAT. OFF.

CHEMICALS

J. B. FORD DIVISION

Circle Item No. 15—Reader Service Card

OFF THE JOB

Safety programs for plant and community

By HARRY C. JOHNSON

NSC Staff Representative, OTJ Safety Committee

Safety Man Confesses Family's Mishaps

I recently came across a rare confession—that of a safety director. This can be considered a common story when it involves other fellows, but not when it concerns a person dedicated to our chosen field.

In the article, "Ships Are So Much Safer," published in the Farrell Lines, Inc., *Safety News,* the family of this steamship line safety director found cause to review its policies on household safety practices.

The safety man has been so embarrassed by the chain of accidents that, when the subject of his employment comes up in conversation with the neighbors, he mumbles something about being "in transportation." This is what happened:

July 4. Daughter collided with playground swing, requiring a visit to an emergency ward and five stitches in her right eyebrow.

July 5. Wife drove to a nearby shopping center for last-minute items needed for the arrival of the third child, expected in two weeks. She stopped the car for a red light, and a vehicle following smashed in the back end of her car.

The only casualty of the incident was the male driver of the car causing the collision. He almost collapsed from shock, when both drivers got out of their cars to examine the damage.

September 1. While visiting friends, the son was assigned the role of an Indian. While attempting to lengthen the gap between himself and pursuing "cowboys," he tripped over a step and fell on his right arm. This required the injured gun-arm to be put in a cast for several weeks in mending the fracture.

September 15. Eldest daughter slipped off steps and required four stitches in her lower lip.

The family has had no recent accidents. A healthy baby was born 10 days after the car collision. Stitches and scars have disappeared. The broken arm has mended. The family doesn't patronize the playground, haven't done any visiting, and can be found at home listening attentively while Dad reads from *Safety at Home.*

* * *

In all seriousness and being fair, we can see where the accidents to the children were unavoidable and are excusable. By virtue of their youth, children can be pardoned. *Adults cannot be excused!* And yet all of us are aware of so many accidents involving adults, and we are reasonably certain most children would have avoided these mishaps. It's worth thinking about, and then doing something constructive, safetywise!

Those who dare to teach or lead must never cease to learn. — The Armchair Expert in *The Industrial Supervisor*

Who's Responsible?

America's supervisors have done a commendable job in reducing frequency and severity of accidents in the years since formal safety programs started . . . While this is everybody's victory, a large share of the credit undoubtedly should go to the foremen and other supervisors who have trained and directed the skills and molded the attitudes of the workers.

Despite this record of progress, however, it is still tough to explain how 14,200 members of our working population were killed in job accidents last year—and how 1,950,000 of us were injured on the job.

But the supervisor's concern does not end there. If he is at all concerned with the welfare of his community and his nation, he looks beyond the plant gates at this country's total accident toll for last year —95,000 killed and 9,600,000 injured in all types of accidents.

And if he is inclined to boast of our efficiency in this country, how does he explain the out-of-pocket costs of these accidents—a total of $11,900,000,000? If we were efficient, how do we account for nearly $12,000,000,000 poured down the drain—to benefit no one?

We may find the answers after each and every one of us—every man, woman, and child—has learned to accept his own moral responsibility for accident prevention.

Are Your Employees Safe at Home?

The National Safety Council's new pamphlet, *Safe at Home,* is a very fine piece of information on off-the-job safety and should be considered a great help to all employees in this effort.

Suggested procedure is that you purchase a quantity of these pamphlets. You may then have your firm's name imprinted and, if you wish, may send this publication to the homes of your firm's workers.

Safe at Home is a fine reminder of the many accidents which *do* occur around the house.

New "Safety Twins"!

low-cost 2½ lb. pressurized Dry Chemical extinguishers

. . . now charged with patented "formula H"!

If you're looking for a low cost, high quality, multi-purpose extinguisher . . . one that's both compact and effective—*then this is your baby!* Available in either sparkling Chrome Plate or lustrous Vermillion Red, this new, budget-priced 2½ lb. dry chemical extinguisher packs high fire-killing power against flammable liquid, gas and electrical hazards. To further boost speed, dependability and effectiveness, the "Safety Twins" are charged with patented "Formula H," an exclusive moisture-repellent, heat-resistant, non-caking powder that flows freely under all conditions!

Because extinguisher is lightweight and easy to operate, it can be used effectively by women as well as male employees in factories, office buildings, schools and institutions, and by all household members around the home, car, garage, boat, etc. Operation is fast, simple, effective. Squeezing the "grip fit" handle releases a 60° wide angle blanket of powder in a flat dense pattern. The dry chemical reaches 10 to 12 feet to quickly smother incipient fires. Pressure gauge shows operating condition at a glance. Model is fully approved by Factory Mutual, U. S. Coast Guard, and Underwriters' Laboratories and carries new high 4-B, C rating by U. L.

For specifications and prices, contact our distributor today, or write to:

products of **THE FYR-FYTER COMPANY**

ATLANTIC COAST REGIONAL OFFICE
P. O. Box 750, Newark 1, New Jersey

CENTRAL STATES REGIONAL OFFICE
221 Crane St., Dayton 2, Ohio

PACIFIC COAST REGIONAL OFFICE
132-140 Hawthorne St., San Francisco 7, Calif.

BUFFALO better-built

BRANCHES: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Seattle, Toronto (Ontario). Representatives and Distributors in all principal cities.

Circle Item No. 16—Reader Service Card

NEW
Koroseal®
WORK GLOVES
offer GREATER RESISTANCE
to solvents and light oils
The new blue color identifies this jersey-lined Koroseal work glove that combines excellent abrasion resistance, maximum flexibility at low temperatures, with unsurpassed protection against hundreds of alkalies, salts, solvents, oils, greases, soaps, detergents, dyestuffs, etc. Also, the new Flexigluv has no obnoxious odor. Blue Koroseal Flexigluvs are available in fully-coated #K200 — knitwrist; — #K201 12" gauntlet; and #K202 14½" gauntlet.
FOR FULL INFORMATION AND PERFORMANCE CHART WRITE TO:
Hood Industrial Gloves
Watertown 72, Massachusetts
HOOD INDUSTRIAL GLOVES • KOROSEAL • NEOPRENE • RUBBER

Circle Item No. 19—Reader Service Card

COOL HEADS IN "HOT SPOTS" WON'T LET YOU DOWN

On jobs where the air is foul or hot, men can't be blamed too much for letting up now and then. If you want to keep their efficiency and morale high, feed them better air.

Employers have learned the value of putting Coppus Blowers and Ventilators on the job . . . in confined areas and near furnaces or hot processes. The men work faster, do better work, work longer without fatigue — and appreciate the more comfortable working conditions.

Give some thought now to the "hot spots" in your plant. There is a Coppus Blower for practically any requirement — Cable Manhole and Tank Ventilators, Boiler Manhole Blowers and Exhausters, Heat Killers, Shiphold Ventilators, etc. The Coppus "Blue Ribbon" is your assurance of design and construction planned for plenty of severe service. Check and mail the coupon for specific information. Coppus Engineering Corp., Worcester 2, Mass. Sales Offices in THOMAS' REGISTER. Other "Blue Ribbon" Products in BEST'S SAFETY DIRECTORY, CHEMICAL ENGINEERING CATALOG, REFINERY CATALOG.

ANOTHER
COPPUS
"BLUE RIBBON" PRODUCT

COPPUS ENGINEERING CORP., 125 PARK AVENUE, WORCESTER 2, MASS.
Please send me information on the Blowers that clear the air for action.

- ☐ in tanks, tank cars, drums, etc.
- ☐ in underground cable manholes.
- ☐ in aeroplane fuselages, wings, etc.
- ☐ on coke ovens.
- ☐ on steam-heated rubber processes.
- ☐ on boiler repair jobs.

COOLING:

- ☐ motors, generators, switchboards.
- ☐ wires and sheets.
- ☐ general man cooling.
- ☐ around cracking stills.
- ☐ exhausters, welding fumes.
- ☐ stirring up stagnant air wherever men are working or material is drying.

NAME.....

COMPANY.....

ADDRESS.....

CITY.....

(Write here any special ventilating problem you may have.)

Circle Item No. 17—Reader Service Card

Accident Costs

—From page 46

ings of the meat industry, to produce a figure such as this.

We all know the cost of accidents in our plants definitely is a major item of overhead expense, whether we pay the money to an insurance company or pay the cost direct to doctors, hospitals, or the employee. It is an expense item that can be controlled, and if we are to control it, we must do something about it.

We suggest you try our plan of attack in getting the safety story to your people.

1. Let everyone know the cost of accidents.
2. Make everyone feel they are a part of the program.
3. Investigate all accidents—discuss them with everyone concerned.

Let everyone know the cost of accidents.

As suggested before, make periodical cost analyses. If insured, have the insurance company provide you a detailed record of payments made, add to it a calculated retention for its service. In other words, include the entire cost. If self-insured, be sure to include the cost of excess coverage insurance, and claim service agent fees.

Don't fail to bring out the point that actual monies paid out are not the entire cost of accidents. There are many other hidden costs which should be included, such as lost production, the expense of going to and from doctors' offices, the payment made for the first seven days where lost time is incurred—and others.

It is reported that the national average for these hidden costs is equal to several times the actual monies paid out. If this is a yardstick for us to measure our experience by, then I am sure some of us would find our cost of accidents would be the difference between just making a small profit and a reasonable profit in our industry.

Make everyone a part of the safety program.

In selecting members of safety committees, be sure you include management, supervision, and plant employees. Selecting the plant employee is important. Since he is on the firing line, he sees things happen when they happen, and his presence has the lasting effect of getting over to all employees the necessity of safety at all times.

Make the supervisor responsible for his area of operations.

He is responsible for the actions of all his people and should be held accountable for their actions. Have him report to management what should be done to make his department a safer place to work—why an accident happened and what preventive measures will be taken to see that they do not recur.

Management people should take an active part.

They certainly stand to reap a reward for their efforts. And since they are vitally interested in the welfare of the employees, they should let them know how they feel. They should let them know what they are willing to do to make the place they work in a safe place to work. Let them know they are interested. Their interest certainly will rub off.

Investigate all accidents.

Thorough investigation of all accidents is a must. It has a lasting effect on the person involved since it shows someone is interested in what happened. It points out who or what was at fault, what could have been done to avoid the accident and should have the effect of creating an attitude of safety in the person's mind for the future.

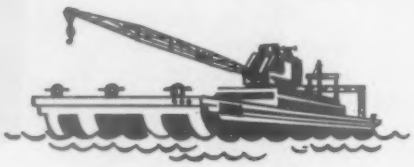
Clean Up

A floor cluttered with tools, scraps of lumber, bolts, nuts, and other litter can create a serious hazard. Cleaning up after the job is as important as collecting tools and material in preparation for it.

Maintenance and shop men should be warned of the importance of after-the-job housekeeping.

SAVED with RES-Q-PAK®

says Paul Flynn
of Underwater Service, Inc.
Duluth, Minnesota



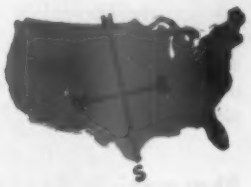
"Recently, we constructed a water supply line into Lake Superior. Equipment was towed, morning and night, about two miles from harbor to job-site, and a mile off shore in one area. One morning the tug had the derrick and pile-driver barge on a stern tow line. George Wilson, one of the riggers, fell about 20 feet from up in the pile-driver leads. Returning to Wilson, required ten minutes, a total of twenty minutes that he had been in icy water. When Wilson was picked up he was swimming for shore on his well-inflated Res-Q-Pak. His legs had started to cramp, and he doubted that he could have stayed afloat much longer without the aid of Res-Q-Pak."

Res-Q-Pak is no bigger than a pack of cigarettes, weighs only four ounces. Will support a 250 lb. man for hours. Sold individually at $2.98 each (slightly higher in Canada). Military type Res-Q-Pak also available at $5.00 each. Contact your distributor or write direct.

THE MUTER COMPANY
1259 South Michigan Avenue
Chicago 5, Illinois

Circle Item No. 18—Reader Service Card

AROUND THE COMPASS



ACTIVITIES • PROGRAMS • EVENTS

By Nils Lofgren

Field Service Department, NSC

Fund Raising Publication Prepared

A publication on fund raising has recently been prepared by the Field Service Department. It is titled *Fund Raising for Community Safety Organizations—Principles, Problems, Procedures,* and is a revision of an earlier paper on this subject.

The foreword to this publication says, in part, that this paper "is based upon analysis of the composite experience of local safety organizations affiliated with the National Safety Council over the past ten years.

"While it is true that communities are different, it is also true that they are alike in important respects. For this reason and because of the demonstrated practicality of its application, we believe that this paper will be most helpful to the governing boards, finance committees, and managers of community safety organizations."

A mailing of this publication has been made to state and local safety organizations. Any safety council manager who has not received a copy and wishes to have one may request it by writing to the Field Service Department.

Fellowship Announced at M.S.U.

The Automotive Safety Foundation has announced a Fellowship in Highway Traffic Administration at Michigan State University.

A $2,000 stipend for the 1959-60 academic year is being provided for an individual interested in earning a master's degree to further his knowledge and competence in traffic safety organization administration, driver license administration, traffic safety public information service, or related areas.

For further information on this fellowship and on the curriculum at MSU write to: The Director, School of Police Administration and Public Safety, Michigan State University, East Lansing, Mich.

Safety Briefs

The 29th Annual Michigan Safety Conference was held in Lansing April 14-16.

The Industrial Section of the Maricopa Safety Council (Phoenix, Ariz.) has just completed its second annual Maricopa Industrial Safety Workshop for Business Executives. The workshop sessions were conducted on eight consecutive Monday evenings. Scotty Wallace, council manager, announced that an extensive technical Foremen's Training School was to begin in the middle of April.

The 16th Annual Greater Akron, Ohio, Safety Conference was conducted March 17-18.

A Foremen's Safety Institute was held April 8 by the Industrial Committee of the Morris County, N. J., Safety Council.

The Greater Minneapolis Safety Council concluded its 18th Annual Occupational Safety Conference with a banquet and entertainment program April 14. The purpose of

—To page 56

HONORED ON RETIREMENT. More than 150 friends of R. C. "Bert" Salisbury gathered in Milwaukee's Plankinton House on February 10 to honor him on his retirement as Wisconsin's highway safety director. Tributes to Bert were expressed by R. G. Knutson, chairman of the Industrial Commission, and Commissioner Melvin Larson of the Motor Vehicle Department. Master of ceremonies was E. Clark Woodward, safety director for A. O. Smith Corp. In the above photo, left to right are: Gerald O'Connell, Northwestern University Traffic Institute, Emerson Westwick, Paul Hill, manager, Field Service Department, National Safety Council, and Mr. Salisbury.

this ONE bridge
automatically
FITS 9 OUT OF 10
without adjusting!
Fendall's exclusive
PATENTED
MULTI-FIT
BRIDGE
Only Fendall safety glasses are equipped with the revolutionary Multi-Fit bridge, already proved one of the greatest advancements in safety spectacle history. Safety directors all over the nation are standardizing on Fendall safety glasses with the amazing Multi-Fit bridge. Now is the time to improve your eye-safety program. Equip your workers with Fendall safety glasses now. Write for details.
Exclusive temple joint construction (patent pending) permits angling of temple for perfect fit on all faces.
FENDALL PRODUCTS
FEND ALL HAZARDS
FENDALL COMPANY
4509 N. LINCOLN AVENUE, CHICAGO 25, ILLINOIS
Circle Item No. 20—Reader Service Card

these conferences has been to prevent accidents on the job by exchanging information, training supervisors, and stimulating general interest in work safety. Section meetings on three evenings in January, February, and March featured speakers, films, forums, and demonstrations followed by general sessions.

Pharmacists Recognize Harold Lillie

The pharmacists of Michigan have named Harold Lillie, director-secretary of the Greater Lansing Safety Council, their citizen of the year for 1959.

Mr. Lillie was cited for his "outstanding community service and leadership which has helped to make his community and Michigan a better and safer place to live."

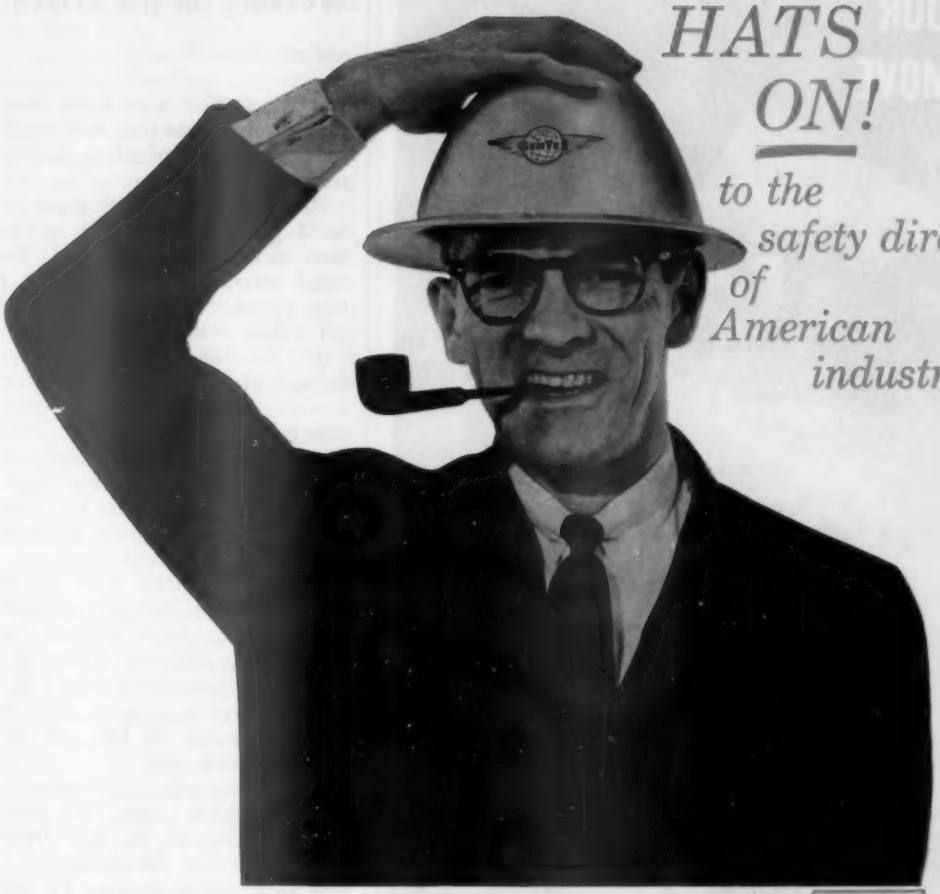
Announce New Fire-Retardant Paint

Fire retardant paint, that will aid materially in minimizing damage and loss of life, has been developed in Du Pont laboratories and is now being made available throughout the country.

Said to be equal in appearance to the finest architectural finishes and approved by the Underwriters' Laboratories, the new interior flat enamel does not stop fires but slows down the spreading rate. The material is described as totally different from the type that foams and forms a spongy insulating layer when subjected to heat. Five years of research went into its creation.

Fire retardant paint is useful in special areas of the home such as stair wells and furnace rooms. Greatest application, however, is foreseen in plants, offices, bulkheads of ships, hospitals, hotels, schools, and apartment houses.

Available in seven colors and white, the material is recommended at three coats for optimum results. It can be applied by brush, roller, or spray gun on new or unpainted surfaces.



HATS ON!

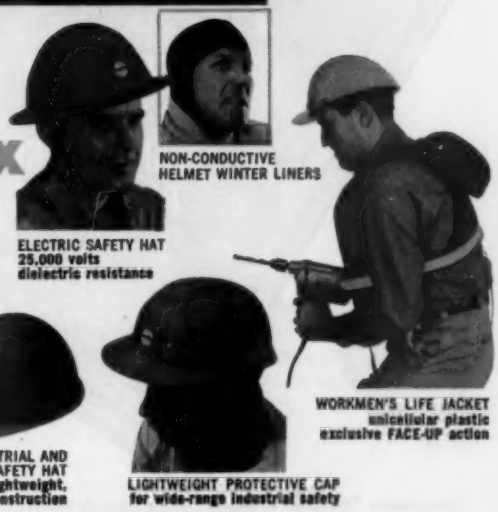
to the safety directors of American industry

Generally, a salute is *hats off*. But a salute to industrial safety directors must be hats *on* – because safety directors have saved untold hours of working time, and prevented thousands of serious accidents, – by insisting that their men keep their hats – hard hats – *on!*

With a GENTEX, there's no problem getting your men to keep their hats on – men like to wear it because it's lightweight, comfortable, attractive and fits right. And it's safer, too – GENTEX research-for-safety is dedicated to making the work of the Safety Director ever more effective.

YOU CAN BET YOUR LIFE ON A GENTEX

first in safety for industry, government, the military and sports.



NON-CONDUCTIVE HELMET WINTER LINERS

ELECTRIC SAFETY HAT
25,000 volts
dielectric resistance

WORKMEN'S LIFE JACKET
unicellular plastic
exclusive FACE-UP action

INDUSTRIAL AND CONSTRUCTION SAFETY HAT
lightweight,
all-plastic construction

LIGHTWEIGHT PROTECTIVE CAP
for wide-range industrial safety

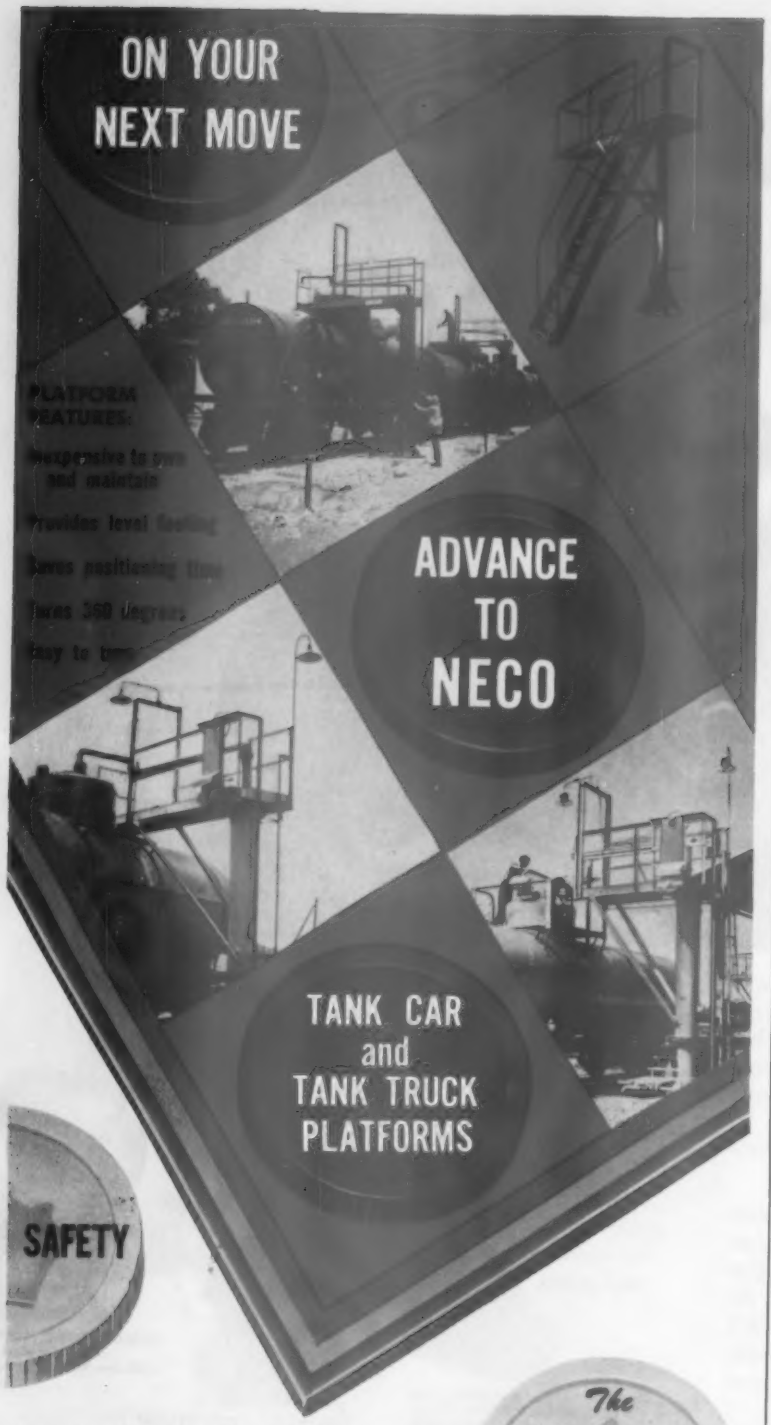
Helmets for aviation, police, fire-fighting, racing and military use • Parachutes and sea anchors • Life jackets for pleasure, work and racing craft • Blasting-cap carrying cases • Protective clothing • Safety belts and webbing.

LEADING SUPPLIER OF HELMETS TO THE ARMED SERVICES

GENTEX CORPORATION Dept. T-1 450 Seventh Ave., New York 1, N. Y.

Please write for specifications and test equipment.

Circle Item No. 21—Reader Service Card



Guarantees "Ground to Dome" Protection. Features versatility. It raises — lowers — extends — retracts — rotates . . . eliminates maintenance problems. Considered the standard by many automotive, chemical, petroleum and pharmaceutical companies. A NECO Platform can be adapted to any plant need. Get full details — see how one or more can solve your loading-unloading problems. Write today for brochure showing specifications and pictures.

The NICHOLS ENGINEERING COMPANY

3816 WEST GRAND AVENUE · CHICAGO 51, ILLINOIS

Circle Item No. 22—Reader Service Card

Working on the Frisco

—From page 29

that a real effort is made to attend to any suggestions that are brought up in the interest of safety, no matter who gets the idea.

"Also, the general attitudes toward getting things done around here seem to have changed. The usual attitude used to be, do it fast, period. Now the feeling is to get it done, but safely."

C. T. Tiller, freight handler, Springfield, Mo., with 15 years' service—"We haven't had a reportable injury on the dock since 1952. I feel that things like the company-sponsored dinner this past Christmas, which we received for going a year without an injury, keeps up interest in our record.

"I can remember back to one year when we had 75 accidents here; and an active program has made the big difference. I have been particularly pleased to see the Frisco carry its safety program into the schools, because the kids will take our place some day."

G. H. Newell, Sr., locomotive engineer, York, Ala., 42 years' service—"One of the best things the railroad ever did was instituting this broad safety program for both employees and their families. Lots of men were killed or crippled before it started, and I don't hear of this happening to near the same extent these days." Mr. Newell has worked on the town safety council for eight years.

A large number of our employees and their families have safety committees in their homes. A local chairman of the machinists and his wife wrote:

"To do a job right, we should start at the bottom, or foundation; not wait 'til we are halfway through, then get a blueprint and try to go from there and do it right. I believe the head of the family should handle the blueprint, read it, practice it, preach it, and practice what you preach.

"In no time, each member of the family will be watching each other for safety habits. Teach it to the young from the start, not wait until they are half-grown, to do things the safe way. It will pay off. My wife and I have a safety committee

in our home, and we are proud that we have."

Another letter from a maintenance-of-way section man and his wife said—"When safety begins at home and our home is a safe place to live, our thinking and our doing will always go back to the training we received from mother and father.

"A wife's most important task each morning when her husband leaves for work is to be sure he has a clear mind, for a troubled mind has no room for safe thoughts. We have had a safety program in our home for years, and it has meant so much to our family."

And a clerk and his wife say—"I know of no other place where safety can be so successfully taught as in a family safety meeting." (Note that these three families also think safety should be a family affair.)

By working together for safety, it is possible to obtain results of benefit to all concerned. For the employee and his family, it means happiness, because safe ways are happy ways. For the company, it means a higher employee morale and more efficient operations. Safety is vital to efficient operations.

For both, it means receiving national awards for the accident that didn't happen. By working together for safety on the Frisco, the employees, their families, and the company have received 14 safety awards during the past 10 years from the National Safety Council, the Harriman Awards Committee, and the U. S. Army.

POLIO

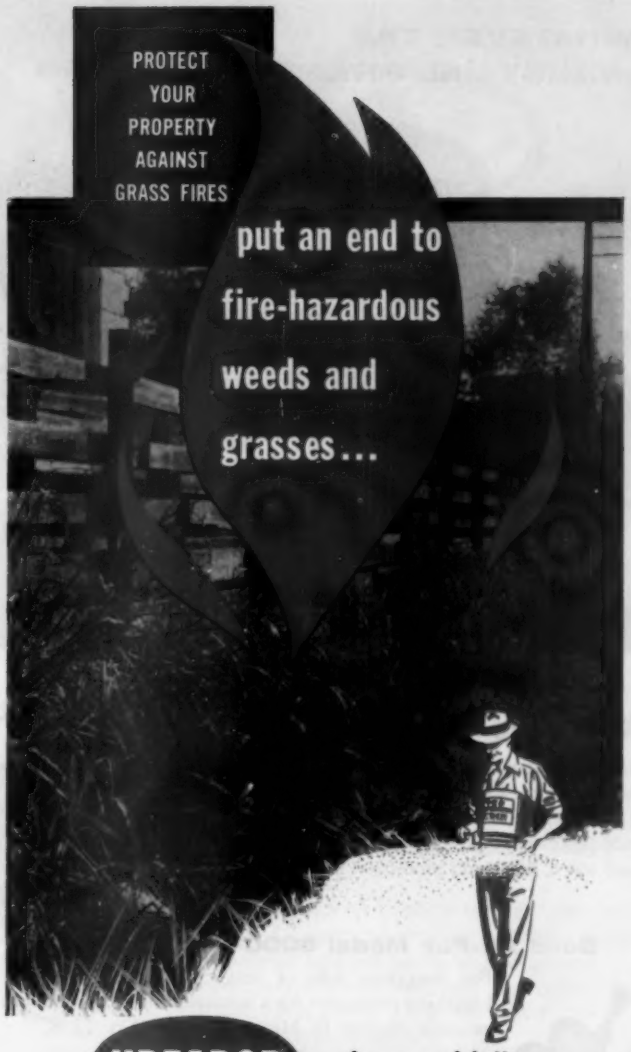
IS NOT LICKED YET!

Although some types of polio decreased . . . the most deadly of all—Paralytic Polio—actually *increased* in 1958 over 1957 among those not vaccinated. There are millions of people still not protected by polio shots as the 1959 Polio Season approaches. DO something about it . . . get your polio shots NOW!

SEE YOUR DOCTOR OR HEALTH DEPARTMENT

DON'T TAKE A CHANCE—TAKE YOUR POLIO SHOTS

Published as a public service in cooperation with The Advertising Council



UREABOR *makes weed-killing easy and economical... prevents regrowth all season!*

UREABOR is a special kind of weed killer made mainly for industry and offering big advantages.

UREABOR is extra-effective—it kills weeds and grasses in any soil—destroys the roots and prevents regrowth.

UREABOR is inexpensive and convenient—always ready to use. It is granular and dust-free—applies DRY! Application rates are quite low—as little as 1-lb. per 100 sq. ft. often does the job.

UREABOR is safe; it is nonpoisonous, nonflammable, and noncorrosive to ferrous metals.

A special spreader is available for applying this weed killer—it's as easy as walking. Send today for descriptive literature.

UNITED STATES BORAX & CHEMICAL CORPORATION

Pacific Coast Borax Company Division AGRICULTURAL SALES DEPARTMENT

630 SHATTO PLACE • LOS ANGELES 5, CALIFORNIA

Circle Item No. 23—Reader Service Card

Scott Sling-Pak Model 6000-B4A

When seconds count, reach for the Scott Sling-Pak. This model is the fastest piece of emergency equipment made. Ideal for fast, safe entrance into hazardous atmospheres. Cylinder holds enough pure breathing air for 15 minutes of hard work. Breathing protection at lowest cost.

Scott Air-Pak Model 6000-A2MS

For dangerous jobs of longer duration. Safe, comfortable breathing protection for a minimum of 30 minutes at extreme exertion. Bureau of Mines Approval No. 1308.

Scott Demand Respirators

Designed especially to provide breathing protection in atmospheres not immediately dangerous to life and from which the wearer can escape without breathing equipment. Cylinder models and plant air-supply models available. Bureau of Mines Approval No. 1924.

Scottoramic Mask

Provides picture-window vision in all directions for greater safety. The most advanced mask design ever offered. Standard on all Scott Equipment. Replace your old style masks with the modern Scottoramic.

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORPORATION

211 ERIE STREET • LANCASTER, N. Y.

Canada: Safety Supply Co., Toronto — Branches in Principal Cities
Export: Southern Oxygen Co., 250 West 57th Street, New York 19, N. Y.

Circle Item No. 24—Reader Service Card

Minds and Mishaps

—From page 25

saying, "I don't feel very good today and nobody better get in my way." Think of arming a man with 256 horsepower, tease or hurt him a little bit, give him plenty of good victims from which to choose, and your company is going to have some losses to pay.

The other side of that is that our aggressive, destructive impulses, which have to be kept in control or released in modified or specially directed forms, are accompanied by correspondingly self-punitive impulses. We all punish ourselves. The impulse to punish oneself is often just as strong, or even stronger (for some curious reason), than the wish to hurt someone else.

I could cite instances about the wife who gets angry and says something cross to her husband; he goes off to the office and she stays home, washes dishes. Still mad, she swipes a knife through her hand and cuts it.

I could cite many other such instances, where a self-injurious act follows an aggressive act. People come to us clinically who have fallen downstairs under circumstances which make it very clear that they would like to have thrown somebody else downstairs—and have just done something, or said something, or even thought something that aroused enough guilt feelings to precipitate this kind of reaction.

Psychosomatic Medicine

Some of my colleagues started to study what we call psychosomatic medicine by investigating the kind of emotional things that were going on in people's lives at the time they developed the illnesses for which they came to the hospital. They got together a group of stomach cases, a group of heart cases, a group of arthritics.

Now we always have to have something to compare our research cases with; "controls" we call them. In the early days of these investigations the workers said, "Let's take something for our control that is absolutely pure chance. Let's take accident cases." So they took all the accident cases that were brought into the hospital during the same

period. For example, 25 heart cases would be analyzed and compared with the events in the lives of the accident cases.

They found this to be no good at all! Ninety per cent of the accident cases had had instances of provocation, frustration, and disappointment just before their injuries, very similar to the events in the heart cases and the stomach cases. In other words, accidents are not controlled by chance as people think. There are unseen things behind them.

An interesting way to point up the tendency toward self-inflicted punishment to fit the self-thought-up crime is the so-called "burglar trap." From time to time some of these cases appear in the newspapers. I happened to notice one such squib many years ago, and I got so interested in it that I subscribed to a clipping service and asked for them.

What happens is that somebody has decided that too many of his chickens are being stolen, and he contrives a burglar trap so if anybody comes in, he'll be taught a lesson. He will be shot by a gun triggered by opening the door. He erects it. He sets it. He retires.

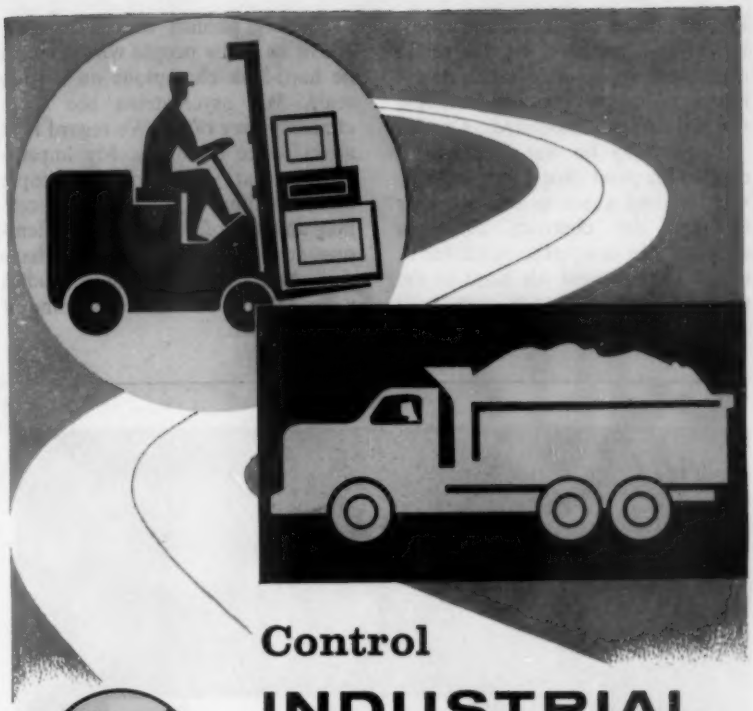
And then, he forgets!

You think that this is exceptional? So did I. But when I subscribed to the clipping bureau I got a whole handful. It seems that this is a regular syndrome! The chances seem to be that anybody who would go to such an extent is likely to get caught in it himself.

How many burglar traps we erect for ourselves in the course of a day would be hard to estimate. We certainly do do that sort of thing; everyone does. Figure out just how many traps you have set, with or without being caught in them, and I'll do the same.

Accident proneness got to be a widely used term some years ago. It was noted that some people seemed to have more than their share of accidents. Here is a clipping about a Californian who spent every 10th birthday during the past 50 years recovering from some major injury suffered in accidents happening on or just before the anniversary. Here is the record:

1890—badly crushed right hand;



Control
INDUSTRIAL
TRAFFIC with
Stonehouse Signs!

Today's vast manufacturing plants have spawned a new and growing hazard, vehicle, pedestrian and rail traffic in and around plant grounds and buildings. Too often, this traffic "just grows"... is left to shift for itself, without control.

In your plant, play it safe with industrial traffic signs, made for industry by STONEHOUSE. All signs are made of enduring, tested materials, and designed in accordance with American Standard specifications.

Remember... nothing costs so little, yet pays off so handsomely, as accident prevention!

* *Write today for our free, full-color, 64 page catalog of thousands of ready-to-ship safety signs, plus information about custom-printed signs to meet your special needs.*

"Signs since 1863"

Stonehouse SIGNS

STONEHOUSE SIGNS, INC., Stonehouse Building, 9th and Lorimer, Denver 4, Colorado

Circle Item No. 25—Reader Service Card

in 1900 lost a leg in a train wreck; in 1910 hospitalized for five weeks due to an explosion; in 1920, he got into a fight, got knocked out, had the other leg amputated. On his 50th birthday he was arranging a deal in his print shop, and while he was handing a pen to the customer to sign the contract, the pen dropped. He stooped to reach for it, missed, and caught his hand in the printing press.

Hard-luck champion? The papers repeatedly publish these accounts. All of us know people who seem to be hard-luck champions on a wide scale. We psychiatrists see them clinically very often. We regard it as an evidence of illness. My impression is that you insurance people don't continue a policy after a certain amount of this has been demonstrated. You know it does happen. And from our clinical studies we psychiatrists know why some of them happen.

The great majority of accidents do not occur under *hard-luck champion* circumstances, and the notion of accident proneness is pretty old-fashioned. Today we would rather say that accident proneness is something that all of us have more or less. The question is: What is your accident proneness level today? For some people do have more proneness than others, and all of us have more on one day than on another. It fluctuates with various factors.

The resentments, the things that give rise to a chronic state of suppressed hostility in those people who do have a great proneness, usually stem from childhood. Their long-ago experience makes it more difficult for them to control themselves than for people with a less traumatic childhood.

The same thing is true of offenders. Some doctors in the Mayo Clinic recently studied a lot of murderers and found that, as children, they were almost murdered by their own cruel parents. Hate, often in the name of discipline, led to beatings and chokings.

But even the healthy-minded person can become a little unhealthy-minded from all sorts of things—weariness, fatigue, a series of disappointments. There isn't one of us who hasn't had days when we have thought—"One more thing and I'll bust, or bust somebody!"

I recall the case of a father who was going to take his family on a little outing. Everything was going happily. He went out to pack the car and discovered a flat tire. He groaned, but he fixed it. While doing so, he hit his finger with a wrench and got a badly bruised hand. He came in the house, quite upset and mad. He went to put a bandage on his hand—knocked over a table which crashed into some china.

This series of minor catastrophes struck one of the children as amusing, as well it might, and the little daughter laughed. This was the last straw. Without a word to any of them, he went to the basement and hanged himself.

This is a true story. Another father might have struck the child, and then felt guilty all day. Still another might have been mentally healthy enough to have joined his daughter in the laugh. But there is a

...or closed forever?

Here are some shocking figures:

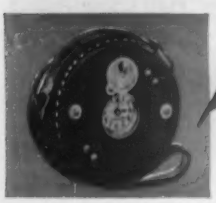
83% of all fire damage occurs when plants are closed.

43% of all firms suffering severe fire damage never reopen!

These deadly statistics may someday refer to your company, unless you leave it in capable hands when the front gate is locked. A trained watchman, rigidly supervised to keep him on his toes, is your best insurance against disaster.

That's why so many plants supervise their guards with a tape recording DETEX GUARDSMAN Watchclock. Its embossed, minute-by-minute record of your watchman's activities is tamper-proof. It keeps him on the job. He knows it will expose him if he "goofs off".

The GUARDSMAN quickly pays for itself by saving on overtime. It's unnecessary for a supervisor to return on Saturday and Sunday just to change a 24-hour dial. Write today for complete information.



DETEX
WATCHCLOCK CORPORATION

Dept. N-5, 76 Varick Street, New York 13, New York

Find Your Nearest DETEX Inspector in The Yellow Pages

The Guardsman—and all DETEX dial-type clocks—are approved by Factory Mutual and Underwriters Laboratories. Their use often reduces insurance premiums.

Circle Item No. 26—Reader Service Card

limit to everybody's absorption powers.

And sometimes instead of having these endings, it ends with an accident—they get in the car, drive hurriedly to the corner, and meet a truck.

What's the moral of this? The moral is that no healthy-minded person ever says, "It can't happen to me." Every mentally healthy person knows it could happen. He might meet a fool, or he might even temporarily be one.

Not only should we look forward to different kinds of cities which would greatly promote health and happiness and everything else; not only may we have new sources of energy, but we can have fewer accidents. The more mentally healthy we become as a nation, the more physically healthy we shall be. The more mental health, the fewer accidents. The more meetings of this kind, which teach us about ourselves, and encourage us to get new points of view, and think about things differently, the better our mental health.

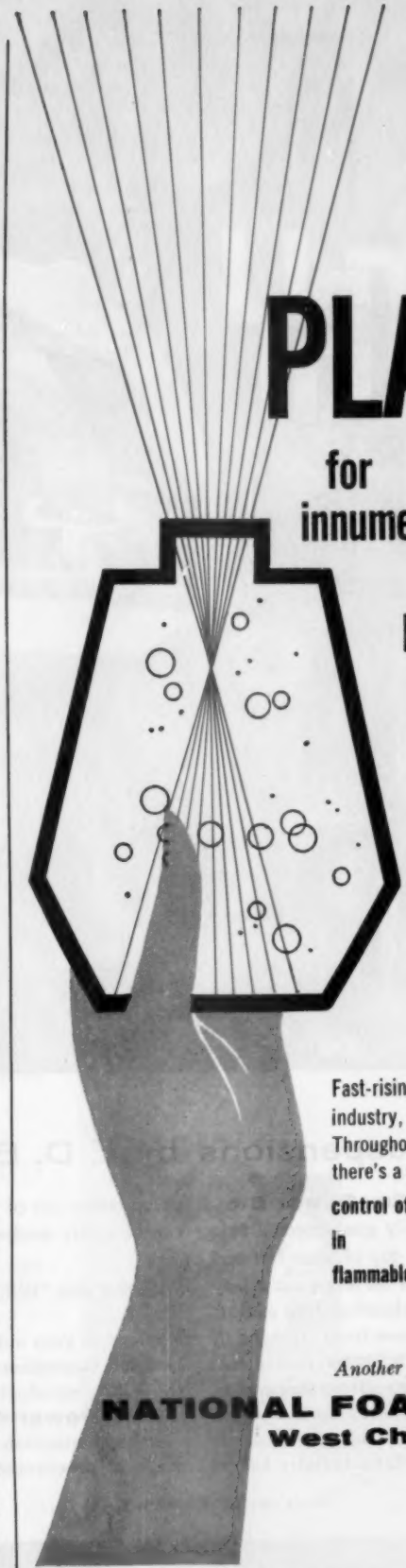
Announce Training Class For Key Personnel

A five-day training institute for accident prevention and more efficient production has been announced by H. W. Heinrich. The institute, which will be held in New York, August 10-14, will be limited to 30 participants and will be conducted at the management level.

The entire program will be conducted by Mr. Heinrich and A. R. Lateiner, both of whom are widely known in the industrial safety field. Mr. Heinrich was for many years superintendent of the Engineering and Loss Control Division of The Travelers Insurance Company and is the author of *Industrial Accident Prevention, Basics of Supervision,* and *Formula for Supervision.*

Mr. Lateiner has been safety engineer for U. S. Shipyard and supervisor of in-plant training courses for the City College of New York.

Full information may be obtained from Heinrich - Lateiner Master Training Institute for Accident Prevention and Efficient Production, Box 55, Mamaroneck, N. Y.



PLASTICS

for innumerable new products

Fast-rising demand, in homes and in industry, calls for ever-growing production. Throughout the production process there's a continuing need for

control of fire in flammable liquids.

Another growing industry served by

NATIONAL FOAM System, Inc.
West Chester, Pa.

Circle Item No. 27—Reader Service Card

BUILT-IN SENTRY GUARDS YOUR HEAD

Power-Bloc suspensions by E. D. Bullard Company

No matter how adjusted, a Bullard **Power-Bloc** suspension always automatically guarantees a safe limit of clearance between the top of your hat and the inside of your hat's shell. This lets your safety hat or cap work with shock absorber-like action, blocking power of overhead blows from crushing or lacerating your skull. Your hat is lighter, cooler, and more comfortable with a **Power-Bloc** suspension. Sweatband is made from a remarkable new foam plastic that actually shapes itself to your head as worn. Its highly absorbent characteristic keeps perspiration out of your eyes . . . yet the sweatband can be easily washed new in soap and warm water.

Modernize your "HARD BOILED" hats and caps in seconds

Replace all your old Bullard hat suspensions for the extra comfort and safety of **Power-Bloc** . . . the suspension that makes all others obsolete.

BULLARD
INDUSTRIAL SAFETY EQUIPMENT

HARD BOILED®

Write or call your distributor for complete specifications

Circle Item No. 28—Reader Service Card

TECHNICAL FEATURE SECTION

The Journal

OF THE AMERICAN SOCIETY OF SAFETY ENGINEERS

In this issue

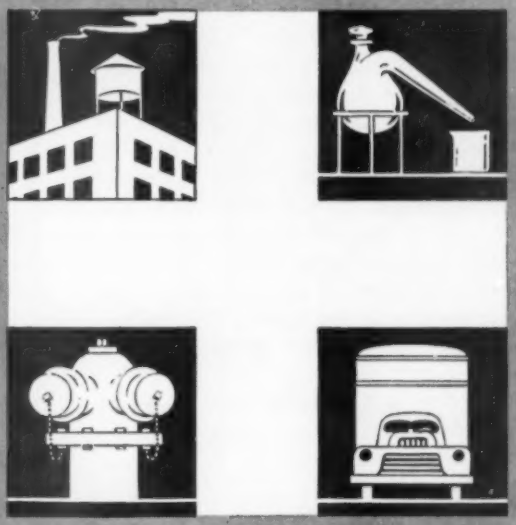
Our President Speaks on Safety 17

Motives Leading to Safe and Unsafe Acts
by Alfred L. Moseley 18

An Engineering Approach to Safety in Materials Handling
by Walter J. Byrne 25

Methods and Procedures in a Multi-Plant Safety Program
by James W. Tysse 29

Safety's Future: Breakthrough!
by Robert J. Dougherty 31



MAY, 1959

National Safety News, May, 1959

Harvard University Group Studies Accident Causes

■ Underlying causes of fatal traffic accidents is the subject of an exhaustive five year study recently launched by the Department of Legal Medicine at Harvard Medical School. This study, certainly one of the most important research projects ever attempted in the traffic safety field, will include both "on the scene" and post-accident studies by automotive and traffic engineers, psychologists, psychiatrists, social workers, attorneys, pathologists and others.

Codirector of this project is Alfred L. Moseley, research associate at Harvard and the author of "Motives Leading to Safe and Unsafe Acts," which appears on pages 18-24 of this *Journal* issue. This article, which covers some of the psychological principles and some of the results of preliminary investigations leading up to the present Harvard study, was presented, in part, by the author in a Society-sponsored session at the 1958 National Safety Congress.

More complete background on the Harvard study will be presented in a coming issue of the *Journal*. We also hope to publish progress reports, from time to time, on this vital project.

Two other articles in this *Journal* issue are based on 1958 Congress papers from Society-sponsored sessions, "An Engineering Approach to Safety in Materials Handling," by Walter J. Byrne, and "Methods and Procedures in a Multi-Plant Safety Program," by James W. Tysse. These three articles serve as an indication of the breadth of subject matter covered each year in these Society sessions of the Congress.—Editor

AMERICAN SOCIETY OF SAFETY ENGINEERS

Organized 1911—Chartered 1915

5 North Wabash Avenue, Chicago 2, Ill.

A. C. BLACKMAN
managing director

ROBERT E. BEIGHLEY
editor

CHARLES S. WOLFF
associate editor

THAD HACKETT
art direction

OFFICERS, 1958-59

president
DONALD G. VAUGHAN
secretary, Aetna Casualty and Surety Company, Hartford, Connecticut

first vice president
JOHN F. JONES
safety supervisor, Commonwealth Edison Company, Chicago, Illinois

second vice president
GEORGE L. GORBELL
safety director, Monsanto Chemical Company, St. Louis, Missouri

treasurer
MICHAEL F. BIANCARDI
manager, Safety Services Department, Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin

secretary
J. B. JOHNSON
American Society of Safety Engineers, Chicago, Illinois

This Journal section is the official technical publication of the American Society of Safety Engineers. It appears quarterly in the National Safety News as a service of the Society to the National Safety Council. Separately bound copies of this section for exchange purposes are provided the Society by the Council.

Copyright 1959 by the National Safety Council, with all rights assigned to the American Society of Safety Engineers. Printed in U.S.A.

Opinions expressed in articles published in the Journal are those of the authors and are not necessarily endorsed by the American Society of Safety Engineers.

OUR PRESIDENT SPEAKS ON SAFETY

■ ONE OF THE MOST IMPORTANT, if not the most important, factor in accident prevention work is attitude. If the majority of people in any segment of the population really desires safety and wants it enough to place accident prevention above other desires, drastic reductions can be made in both frequency and severity.

Let's take, for example, the population segment represented by the people in a particular plant. If the majority is sincerely interested in reducing accidents, then accidents will be reduced. We safety engineers use all kinds of methods in attempting to sell accident prevention to this majority. Top management interest and backing, responsibility of foremen and education of employes are only a few of the items that are useful in this work. By whatever means we accomplish our purpose, if we finally can sell the majority of the group so that these people become interested and active, then accident prevention efforts will show marked results.

The highway safety picture is not different, fundamentally. It is much more difficult, however, to reach a majority of the very great number of people who use the highways. Again, safety engineers use many various devices in attempting to sell the majority of this segment of the population. Because the audience is so much larger and operations are not as concentrated, traffic safety efforts show much less spectacular results than do accident control programs in industrial situations.

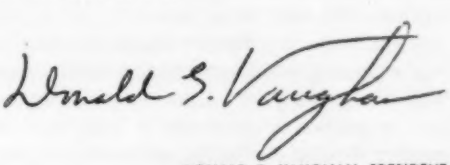
We can see signs of improvement when we are able to reach a small group of this large population segment, the driving public. The excellent improvements realized through driver education in high schools is a good example of such success. Statistics show that, as a group, students who have received proper driver education have a highway accident frequency only half as great as that of the group of students which has not had the benefit of such training. And the significant difference between these two groups is simply that the former has received education in proper attitudes toward safety.

Many commercial vehicle drivers have produced an excellent record because, here again, a small segment of the driving public has been reached with safety education and the majority of this segment has acquired the proper attitude, sincerely believing that accident prevention is important.

Our real problem, as safety engineers, is to reach the majority of that large part of our population which uses our highways. These people must be reached by a variety of methods, but all directed toward helping them develop the right safety attitudes concerning highway accidents.

When enforcement officers receive proper backing, when it becomes politically expedient to eliminate ticket fixing and when the majority of highway users place traffic safety above conflicting personal interests, we will see a considerable reduction in highway accidents. This means that the individual motor vehicle operator must place the rights of others above his own personal rights such as selecting the speed of the car, traveling and driving irrespective of others and similar rights. When the majority of drivers has the proper attitude, highway accidents will be reduced.

It is up to us, as safety engineers, to use all proper means and methods available to help bring about the proper attitude among all segments of the population. This attitude must prevail at work, in the home and on the highway.



DONALD G. VAUGHAN, PRESIDENT
AMERICAN SOCIETY OF SAFETY ENGINEERS

motives LEADING TO SAFE

from infancy, experiences help shape actions; research shows unsafe acts sometimes result from overt or covert desires to hurt or be hurt, to expiate guilt, to die or to realize a secondary gain

BY ALFRED L. MOSELEY

IN INTERVIEWING ENGINEERS for a specialized piece of work, a broken machine component was introduced with the question, "How was this made?" One said a bar was drilled and rounded. Another said it was a seamless tube. A third said it was a piece of bar stock that had been rolled and welded. The latter was correct.

It becomes clear that, to understand why it failed, it is necessary also to understand how it came to be. This is essentially why a new approach to the situation in relation to accidents is important. *How do motives develop during life and what emerging forms of expression are conductive to accident involvment?*

MOTIVE DEVELOPMENT STARTS EARLY

The term "security" in business and industry basically has to do with money. In the field of personality, it has to do with status. But the meaning of money and the meaning of status are really very similar. To develop a feeling of security in a child is to develop a feeling of being wanted and loved. It means protecting a child from falls, spoiled food, disease. It means warmth, mother noises, cuddling. It means play at the child's level of development and restful sleep.

When protection is viewed in the system of developing the child's security, it becomes part and parcel of the way the family does things. It influences how everyone who comes into the household acts, and what structures and objects are available to the child. If you want to be sure about what the baby sitter feeds the infant, then you prepare the bottles before the sitter arrives. Thus, you run little risk that some milky white cosmetic lotion will find its way through a nipple to the baby's tummy. If you wish to be sure that the child's crying doesn't bring down the wrath of the whole household, you have the pediatrician have a look to find what is wrong, not waiting until the matter is a serious one.

CRYING INFANT RESPONDS TO HELP

From the birth cry until the child attains enough maturity to handle minor injuries without difficulty, the noises emitted while ill, fatigued, hungry or needing exercise may be a problem. Many people cannot stand hearing an infant cry. Some have enough sense to investigate when their nerves begin to be frayed. But some adults, and adolescents as well, are so upset by a crying infant that they lose control completely and fail to act intelligently to solve the problem. The medical examiner can tell of autopsies of infants whose deaths occurred under circum-

stances of sustained crying, with the manner of death related to crushing head injury or asphyxia. The crying turned out to be the result of ear infections, which no one suspected and which no physician found—for none was called to assist.

When the child cries at mealtime, the mother usually will recognize the hunger, unless she is feeble minded. When the infant's fatigue goes beyond a certain point, sleep will follow as a natural course unless something else is wrong. In some illness situations, the temperature tipoff that the child is sick—has an infection—does not develop early enough to give the impression that a pediatrician is needed. Mothers get very good at observing the infants, and usually can tell very quickly if something is basically wrong. For example, in poisoning cases, about 85 per cent of the instances

AND UNSAFE ACTS

are discovered in the first 15 minutes. From this fact you can deduce three things: that the mother knew something was available to the infant, that the mother observed the child frequently and that the child's appearance or behavior was noticeably changed.

What the parent does for the child in these situations has much to do with the child's security. Pain may continue or may be modified to discomfort level but, if the parent is trying to do something to help, the infant is aware of it and the love need is filled.

CHILD LEARNS AS MOVEMENT DEVELOPS

Reach and Grasp—The ability to reach and grasp develops before some of the other basic types of motion a person makes. It is directly involved in the capacity to take things by mouth. This is the basic ability that leads the child to taste and, often, to try to swallow everything in sight. The basic motive is, of course, food taking, aided by the need to have contact by mouth with anything that can reach the mouth. During the first two or three years of life, it can never safely be assumed that this need has been filled. Taste seems to have nothing to do with the propensity of the child to taste and to swallow.

Crawling—With the advent of crawling, the horizons are expanded. Anything that can be reached or pushed, or that will fall, becomes dangerous. Any open place, stairway, storage unit or temporary depository, any locus of work in progress, becomes a site at which trouble may develop. These hazards remain essentially the same throughout life, although the capacity to perceive them and protect oneself from them changes.

Walking—When the child learns to walk, his horizons are expanded greatly. His capacity to get from one place to another is enhanced and he may move around with considerably greater speed than before. Here one sees the root of one of the basic protective principles.

Let us say, for the purpose of argument, that it is impossible to keep a person from getting into a given container, compartment or place. If you can make it harder for him to get in, then it takes more time to do it and you increase the probability that some person in a control position will observe what is happening. This is no different from the policy of trying to prevent a theft from taking place for ten minutes, figuring that if it is not completed more quickly than that, it may not take place at all. There are many parents who follow such a principle but who, unfortunately, sometimes do not know hazards are present. For instance, parents are not always informed by the manufacturer as to the toxicity of the product.

It does not take any leap of the imagination to agree that when a child learns to walk, he also is going to fall. What you want him to do is walk; what you do not want him to do is fall. It would appear that the simplest way to manage the child's development would be to base the learning procedures on the facts that life offers. People walk for most or all of their years and people fall at intervals during most or all of their years. If you are teaching a child to walk, should you not also be teaching him to fall? His normal course of development will bring him to the erect posture and a two-footed gait. Teaching him to fall will provide him with the skill to protect himself when he falls. (See Figures 1 and 2.) As a matter of simple fact, you can do a lot more actual teaching on the matter of falling than you can on the matter of walking. Providing

Alfred L. Moseley, research associate, Department of Legal Medicine, Harvard, is codirector of the university's recently launched five year study on traffic accident causes. With an AM in psychology, he has nine years' experience in accident analysis (including five years' work with Dr. Ross McFarland), has taught in colleges and published 60 research papers.

a skill to use in meeting the situations of danger in life is one of the most basic activities to be carried out in child development.

CHILDISH WISHES NEED CHANNELING

Along with these stages in development, meaningful noises and speech gradually appear. The child learns to avoid the spoon and then to express likes and dislikes. A very important period in the development of his motives has been reached. The psychology of the mother is very important.

Interview data, from mothers whose children have been injured or poisoned in accidents, suggests that the mothers take two stands: (1) what the child wishes for is all right for him to have or to do—the wish is to be approved or granted immediately; (2) it is the mother's prerogative to do as she wishes with her child. But the mother must learn that the child needs to be taught how to wish for something that is reasonable. She must learn to judge the meaning of the child's wishes and his capacity to wish for the reasonable.

The fact that the two year old child can climb up on the open oven door does not mean that he should be permitted to do so. This principle applies quite as much if the door and oven are cold as it would if the oven were hot. It is certain that at some time the oven will be hot. The child may carry a blanket in his hand that will act as insulation but, if he drops it, he will be vulnerable. Abstracting the principle, the hazard is always there: the gun is always loaded; the tea kettle is always hot; mother's sweet-smelling perfume is always poisonous. The child must learn that his wish to occupy, hold, pull, eat, drink or play with something hazardous is not a relevant criterion of whether he should have it.

YOUTH TESTS REALITY AND AUTHORITY

A great deal of activity in early life is concerned with getting acquainted with the real world. It must be looked at, manipulated and tasted. Out of this persistent attempt to consume everything in sight come some concepts of the world and its simple chemistry, physics and human relations. When the child has differentiated among the things which are liked or disliked, he learns that he can evoke a different reaction from his parents if he refuses something. While the initial attempts are real enough, in the sense this spoonful is not wanted, he "tastes" the use of the tactic in other areas, now refusing something for the effect that the refusal creates.

When this pattern of refusal for effect is understood by the child, he may use the technique in testing reality. The matter of reality testing has to do with standards, setting limits and penalties. *Standards* refers to the positive controls—"This I want you to do; this behavior I reward." *Setting limits* has to do with negative controls—"This you may not do; if you do this, I will punish you." What happens in reality testing determines important personality issues for the whole of adult life. Do you remember ever having had the experience, as a child, of having a lad your age draw a line across the gravel walk and threaten, "Spit across this line and I'll knock your block off"? Let's say that you did accept the challenge and that he didn't strike out at you. He is automatically nobody.

This parallels very neatly the type of thing that happens when the mother or father makes a rule, establishes a penalty, announces both and does nothing when the rule is broken. The parent fails to see that the child feels the need of being protected from his own impulses by drawing on his parents' strength. Thus it is seen that, when the child is doing what may be called reality testing, he is in fact asking for control. The best psychology in dealing with the request for control is to give it—and do it now! If you do, the child's security is enhanced because he knows that he can depend on you to guide him and interpret the requirements that the real world places on him.

When difficulties develop between the mother and father, the unexpressed affection is channeled in quantity, and in its qualitative component as well, to the child. Obviously loving a child too much, or in the wrong way, is very damaging to the

Figure 1— To protect oneself in a forward fall, use knees, lower limbs and extended arms to break the fall. Head and pelvis are high to prevent injury.

child. When the love process in the family is amiss, the personality roots which develop into revolt against the authority figure in the family, usually the father, are established. Once having developed, it is quite easy to generalize the revolt, or "pass it around," to all other authority figures. Soon it includes school teachers, other parents, officers of the law and business people. The tendency to revolt against authority is one of the best predictors of the likelihood of being involved in accidents.

If the parental love situation is of sufficient quality and quantity to meet the need of parents for each other, then there is not the drive to be stupidly permissive in controlling the children. This situation fosters respect for authority, based on the fact that it is "OK" with mother for junior to be like father and it is "OK" with father for daughter to be like mother. The family standards then mean that mother reinforces father's authority and vice versa. This is the normal setting for sound character development. *It is the normal development that safe activities will be intrinsic within this setting.* Adequate adaptation to authority, to laws of nature and to situations and machines that embody them is a perfectly natural byproduct of this type of family setting.

The indulgent parent who loves the child unwisely and too much retards the child's emotional development and renders him emotionally incompetent far into the years of adulthood. Not only accidents but also such problems as alcoholism are the byproducts of this retardation. The accident problem is implicit in alcoholism due to the impairment of cortical controls in the brain, interference with motor function and lapse of insight. The recovery period also demonstrates guilt and the hangover. People do strange things under the influence of either of these reactions during the recovery period.

ERROR SPECTRUM SHOWS ACCIDENT RANGE

It is necessary to make something of a jump to adult life here due to the limitations of space. Identifying negative motives is, at this stage, a positive step in controlling them. The continuum of errors in which we are interested has, at one end of its spectrum (see Figure 3), the extreme accuracy of the skilled worker who, by deliberate intent, makes accurate moves and produces a quality product. Slight blemishes are near neighbors, then errors. Accompanying errors are time delays and the production of seconds and rejects. The next point in this spectrum is errors of such magnitude as to damage equipment. The next is personal injury. The next is the production of injury to a fatal degree. There is one more qualitative component in this spectrum—the deliberate act which produces damage, injury and death. It most often is hidden, because an accident generally is defined as a chance event; chance and deliberation as sources of destruction are incompatible bedfellows.

LIABILITY SPECTRUM IDENTIFIES SOURCE

In order to see why motives are expressed in an error spectrum, it is useful to look behind it to a basic source or mainspring. Let us call this the liability spectrum and identify its two extremes, love and hate. These are present in any person at the same time and may be simultaneously expressed. For instance, you may say to your wife, "That is a lovely hat. It makes you look ten years younger. But I don't think you can afford to age ten years every time you take off your hat." Or it may be illustrated by the story of Wilbur Meisner, who said he was once stranded in Spokane without funds and wired his mother for 20 dollars. In a few hours came the reply, "I didn't get your telegram." But love and hate are expressed both outwardly and inwardly and have very different consequences. The complete outward expression of hatred leads to murder, whereas hostility turned inward leads to depression and suicide.

The strength of its outward or inward expression is determined in part by what its results prove to be. When the worker pays no attention to orders given by the night superintendent, the supervisor may beat his fist againt the wall or have a tantrum equivalent to that of a small child. He literally hates himself because he cannot control his workers. The frustra-

Figure 2— To protect oneself in backward fall, use feet, shoulders and slapping motion with hands to break the fall. Head and pelvis are high to prevent injury.

tion builds upon itself and it becomes more extreme, for each tantrum not only embodies the problem of the immediate situation but also embodies the residuals of the earlier ones. If the frustrated person is inclined to pout, then retreat and depression follow in due course of time. Depression is a natural setting in which to injure oneself.

FACTORS INFLUENCE EMOTIONAL EXPRESSION

Some other factors influence the modes of expression in the love-hate spectrum. These factors include the sadistic-masochistic component, guilt, wish to die and secondary gain.

Sadistic-Masochistic Component—The sadistic-masochistic component should be mentioned. This is the need to hurt others, and the need to be hurt by others. When a woman in the office makes a repeated error, she is asking for control. She wishes you to show that you are the man in the situation. If she ought to be bawled out a bit and it is not forthcoming, then you have another problem situation coming.

The extreme woman in this situation marries an alcoholic and goads him when he is drinking so that he beats her. She has him jailed and then comes to the court and pleads to get him out—for another round. The sadistic woman would handle the matter by setting up booby traps and then sweetly denying that she understood she was causing a problem. The female in our society likes more to be hurt and the male likes more to hurt others.

Guilt—Guilt as we see it in our society is based upon the knowledge that one has made an error or has done something wrong. We believe that what we sow, we reap and, thus, wrongdoing is taken care of by punishment. For practical purposes, this means if a person feels he has done something wrong, you do him a service to extract some punishment for it. This relieves the guilt, evens the score. It must be admitted frankly that we often feel guilty far beyond the value of the error.

Ogden Nash wittily and wisely wrote a poem on remorse, the theme of which was that "remorse is a duffer, the wrong people suffer." He observes that "the only person in the coliseum whom remorse enveloped like an affinity was the martyr who had slept through the sermon on the second Sunday after Trinity."

The problem of guilt, when it is present, is that if it is not expiated by punishment, it will seek to find the expiation, usually by a more extreme error, unconsciously designed to bring vengeance from an outside source. An accident, an injury, is an excellent means of accomplishing this.

It is equally important to recognize that, when a person should be expected to show guilt and does not, there should be a suspicion that the situation involving the error, or accident, was not a chance matter. I will never forget an interview with a truck driver who had killed three persons in an accident he could have avoided by yielding the right of way. "I always get mad at the people who try to cross the highway there and don't stop." It looked as if he had decided that it was open season on anyone who didn't stop. He showed no signs of tension, anxiety, concern, self-consciousness or guilt. Not even compassion for the persons concerned was expressed. The lack of guilt is diagnostic of strong hostility in the accident and may indicate either deliberate involvement or unconscious involvement.

Wish To Die—The wish to die is a motive which should be discussed here, thereby raising the question of the possibility that suicide may occur in the plant or on the highway. This material has important implications, and is little understood.

Concern for the wish to die as a motive in accidents was aroused when a disturbed father asked for counsel when his small son was depressed. The boy had lost his dog when it was run over by a truck two weeks earlier. The child reasoned this way: "My grandmother died a year ago and went to Heaven. Spot was killed by a truck and he went to Heaven. If I run under a truck on the state road, I can go to see Spot!" The implication is clear. What would look like driving to endanger and manslaughter on the part of the driver would in fact be suicide on the part of the child.

In one case, a man who walked in front of a car and was killed was shown at autopsy by Dr. Richard Ford, Harvard pathologist, to be studded with peritoneal carcinomatosis which had been discovered in the pancreas three years earlier. The case was now going sour and death was a few weeks or a few months away. Suicide here is hypothesis.

But take the case of the man who threw himself under the rear wheels of a trailer after the tractor had passed at low speed. A driver following urged the truck driver to question the injured man as to his motives. He admitted attempting suicide and made a second admission in the hospital just before he died.

When you see a man lying dead on the ground near an electrical substation, his hands badly burned and his gloves resting on a meter, it is important to raise the question of how the death came about.

Is it an accident or is it suicide? (See Figure 4.) Studies of fatal accidents currently underway at Harvard Medical School's Department of Legal Medicine now show, in the suicide category, nine cases in the highway series, one rail case and two possible industrial cases.

It is not necessary to expand details in order to establish this phenomenon. It is urgent to present the fundamental reasoning to which it is related. The basic psychological and psychiatric problem of the wish to die, as expressed in the accident scene, is the deliberate involvement of another person in the production of the suicide. I admit freely that I have no understanding of this. It is important for any worker or driver to realize that another person may victimize him during suicide. The motorist should be aware not only that pedestrians take risks but also the ends to which the risk-taking behavior may go. This is especially important when you realize the implications of a manslaughter charge, the loss of license and the liability suits that follow.

It must be faced also that suicides in auto and industrial situations may be motivated by the desire to collect double indemnity for accidental death. A finding of carcinomatosis at autopsy is not *prima facie* evidence of suicide, no matter how suggestive it may be. And depression is not discernible at autopsy.

Presentation of this material is predicated on the assumption that he who intends to commit suicide may be expected to do it anyhow. We perhaps are not writing the script, choosing the players and opening the curtain for the dramatic event. The possibility of triggering an epidemic of such cases is a real one. We have no way of knowing how many such cases there are now and identifying the phenomenon may lead to better observations. There certainly is an important problem here for the investigator and the educator and the ethicist. I present this material with full awareness of its seriousness but also with awareness of the necessity for communicating it to those whose professional responsibility must encompass it.

Secondary Gain—Secondary gain is a psychological factor which is observable in many aspects of life. A habit or attitude or practice may be wholly negative in the way it operates in personality and yet offer secondary gains which so far outweigh the disvalues of the situation that the negative situation is acceptable.

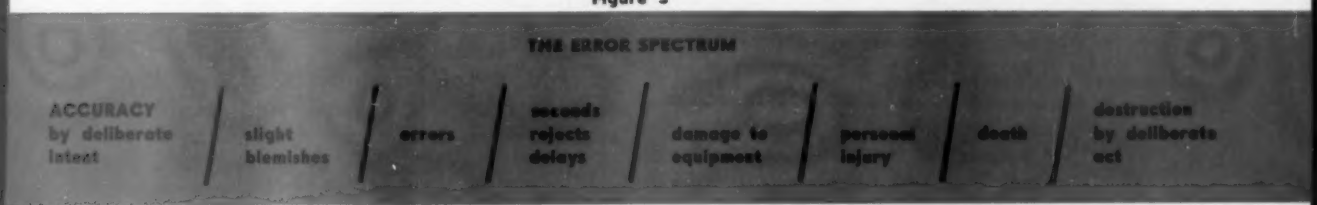
For example, the homosexual male marries a wife —and is offered protection from being identified for what he is. The look of satisfactory adjustment to adult life outweighs the pain of being under the same roof with a woman. The child who enjoys a band-aid on his leg may fall and plead injury in order to have the attractive adhesive attached to his skin. The plain girl in the office whose hand is in a cast was never noticed until she stumbled over an open file drawer. Now everyone asks her every day how her hand is. Some act in small ways as if she were their boss, and they, the assistant.

Also, you see the situation in which facing a disagreeable situation or task is one for which the person cannot muster the strength. As you pull the injured lady out of the badly damaged vehicle to take her to the hospital, you hear her saying, "I didn't want to go to work today."

Finally, there are many people who will do almost anything for money. Some even will go so far as to actually be in, and injured in, the accident they report.

I have mentioned four basic factors, the sadistic-masochistic component, guilt, the wish to die and secondary gains. How can these be managed? They can be managed at a basic level by continuing character education, by support of good family life and by sensible exchange on the part of those whose role in safety is appropriate. When the sadistic-masochistic component is active, the worker is asking for control. Do not deny him the security that control gives. When guilt must be expiated, extract a penalty. When the wish to die begins to emerge enough to be idntified, quickly get professional psychiatric help. The tendency of most people everywhere is to deny that these tendencies exist. Some accidents produce

Figure 3



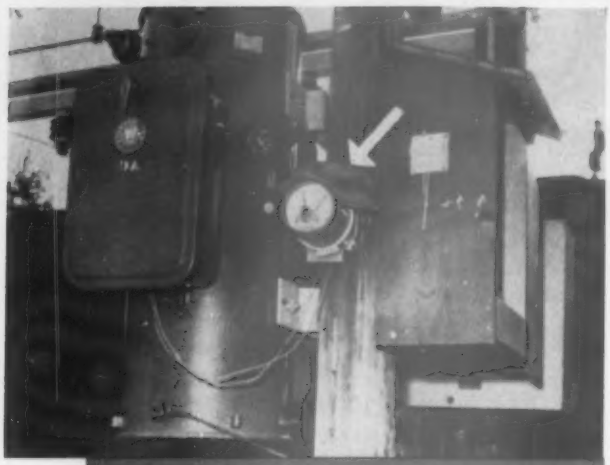


Figure 4—Story of the ungloved hands: gloves are resting on equipment (see above) and below on the ground lies the dead lineman who had taken gloves off while working. He knew the danger; is this suicide?

motives related to safety *continued*

a secondary gain by taking the profit out of the accident.

ENGINEERING APPROACH OFFERS PROTECTION

I have said on many occasions that people decide what rules they will break and what rules they will keep. I also have expressed the principle that the factor of being for and against something is present in the same person at the same time. Here is an engineer who was killed while jaywalking, who was a rough-rider on grounding all electrical equipment. He started by using cross walks, and one day his mother or father led him across the street from between parked cars. He didn't get killed nor even injured. The teacher is obviously wrong: the fact that he often got away with it was clear evidence that it was safe.

In the case of the man who took off his gloves to work, meanwhile touching a high tension line and being killed, another worker was with him. Police and others were summoned quickly. No attempt was made by any person to apply artifical respiration by any method. Certainly this man might have been seriously injured by the fall, but he would have had a 50-50 chance of survival if respiration had been reinstated immediately.

The engineering implications of this case are simply that the design of the equipment is not such as to make manual manipulation easy or comfortable while using protective equipment. Thus, the design encourages taking off the protective gloves. The use of full scale mockups and advance should be routine procedures.

I am often impressed with the extent to which people complain that autos are unsafe and yet assume they know everything about what is good and bad equipment and, particularly, about when a seat belt in a vehicle offers no assistance. Many traffic deaths in 1958 involved an eight or nine year old automobile being driven without any protective equipment. You certainly would consider it regrettable to have a child with diagnosed pneumonia treated unsuccessfully with aspirin in 1958, when penicillin would save his life. We are in the same situation in motor vehicle deaths when we operate automobiles without certain protective equipment.

Here is a survivable crash. Two occupants are still alive. The third, mother of a two week old infant, was thrown from the vehicle and was killed. When you observe the vehicle you find little external damage. Even the windshield is intact. There is little damage in the passenger area. An autopsy explains the death as due to multiple basal fractures and hemorrhages. Seat belts would have prevented this death. As I have said, we decide which rules we will keep and which we will break. Undoubtedly no one today should push his luck by refusing the use of protective equipment in his car. The one time he may need it, it must be there and in use.

A final point I wish to make is that the task of the educator and the engineer is made much easier if the factual nature of problems is known. This is particularly important in cases involving the loss of life. Deaths on the highway, in air accidents and in industry are of public interest and should be investigated by all techniques. Among these should be autopsy in order to establish cause of death. The action of toxic agents, heart disease, epilepsy, cerebral vascular accidents and other factors is very important to establish, for control programs based on opinions, without factual evidence, may be wrong.

CONCLUSION

In discussing motives in relation to safety, it is important to be aware of motives which lead to correct responses and safe acts and to identify motives which lead to incorrect responses and unsafe acts. Once these positive and negative motives are identified, it is important to understand how they came to be, what can be done to reinforce positive motives and what can be done to undermine or replace negative ones. The engineer must be aware that the most highly organized motivational system is subject to failure, the best habits may not function and the best attitudes may be disrupted. The engineer must be concerned with the conditions under which both men and machines are subject to failure and attempt to provide engineering protection for those occasions.

AN ENGINEERING APPROACH TO SAFETY IN MATERIALS HANDLING

BY WALTER J. BYRNE

■ THE HANDLING OF MATERIALS is an integral and important phase of practically every business enterprise. But, despite the fact that great strides have been made in improving handling techniques in many industries during the last three decades, this segment of operations still accounts for one of industry's biggest cost items. Quoting reliable statistics, about 20 to 25 per cent of all labor hours goes into some form of handling. This considerable expense item becomes all the more impressive when it is recognized that, as often has been said, "materials handling adds nothing to the value of a product."

In the opinion of many management authorities, this improvement drag has been caused by a lack of appreciation for the problem and a lack of accurate cost data pertaining to it. For the progress that has been made to date, the major credit, it would appear, rightfully should be assigned to the research and development of the materials handling equipment manufacturers themselves. It would seem that an ingredient currently required is a greater effort on the part of individual business concerns to explore their own operations with the view to eliminating deficient methods and practices and adopting more efficient procedures.

PRINCIPAL SOURCE OF WORK ACCIDENTS

The handling of materials is the principal single source of work accidents and injuries in American industry. Again quoting from reliable records, 25 per cent of all job injuries stem from some form of materials handling.

Despite great strides made in the last few decades in the broad field of industrial accident prevention, materials handling accidents and injuries are a recurring problem. Could it not be that the same reasons that apply to the efficiency lag also may be assigned to the safety lag in materials handling?

In tracing the evolution of management to its present day form, its development can be broken down into three fundamental periods — rule-of-thumb, systematic and scientific. Following the Industrial Revolution of the Seventeenth Century and the beginnings of the transfer of skill from men to machines, factory managers operated on hunches and inspirations. Because the demand for goods was so great, rule-of-thumb judgments sufficed, with the resulting numerous mistakes being readily absorbed.

As individual enterprises grew in size and complexity, supply caught up with demand and competition commenced to show itself. Of necessity, the rule-of-thumb management was replaced by a so-called "systematic" procedure, in which methods and practices which seemed to have worked well in the past were standardized. Although a step forward, this technique was systematic only in so far as it tried to reduce a set of practices that had proved successful in the past to a routine for dealing with operations of a recurring nature.

MANAGEMENT ADOPTS SCIENTIFIC METHOD

Some 60 to 70 years ago, Frederick Taylor entered the scene and introduced the beginnings of scientific management to business. His approach

Walter J. Byrne, an engineering graduate of the Massachusetts Institute of Technology, is a licensed professional engineer. In 1946, he established and assumed the presidency of the New York management consulting firm which bears his name and which specializes in materials handling, layouts, surveys, industrial and marine accident prevention and related fields.

FIGURE 1—FLOW PROCESS CHART FOR METAL WORKING CONCERN

PARTIAL CYCLE—ORIGINAL METHOD

ACTIVITY SYMBOL	DISTANCE	ACTIVITY DESCRIPTION
O-1		Packs sheet steel, 12" x 12" x 6", 200 lb each, unloaded by two wheel hand trucks from trailer by driver and helper onto loading platform. Material handlers (2) load packs onto skid, 12 to skid.
T-1	150'	Skids transported by hand jack truck to warehouse.
O-2		Skid unloaded by two men, packs stacked three high on floor.
PS		Await production requisition.
O-3		Six packs loaded on skid, two men.
T-2	200'	Transported by jack truck to Press #6.
O-4		Material handler, assisted by press operator, unloads packs onto floor.
O-5		Operator breaks open packs and handles individual pieces to completion.

PARTIAL CYCLE—REVISED METHOD

ACTIVITY SYMBOL	DISTANCE	ACTIVITY DESCRIPTION
		Packs sheet steel, 12" x 12" x 6", 200 lb each, unloaded from trailer truck by driver and helper onto 48" pallets supplied by Receiving, nine to pallet. Roller conveyor also made available for transport from truck interior to tailgate.
T-1	150'	Lift truck transports to warehouse and stores same.
PS		Await requisition.
T-2	200'	Loaded pallet transported to Press #6, by lift truck, placed on 3' high bench beside machine.
O-1		Operator breaks open six packs and handles individual pieces to completion.
T-3	200'	Lift truck returns three pack pallet load to warehouse.

safety in materials handling *continued*

was to look behind those methods and practices which appeared to bring about desired results, in order to find what laws and principles, if any, were operating. While the systematic method asked the question, "What practices have worked in the past?" the scientific approach asks, "Why do some practices work out and others fail?"

A recognized aim of a good industrial safety program is to "build in" accident prevention measures, both in work procedures and physical facilities, and thus greatly minimize the unpredictable human factor inherent in all of us. Present day machine guarding and dust and fume control are examples of successful, built-in safeguards.

In the field of materials handling, the achievement of built-in controls has been spotty. Despite the ever increasing use of mechanical aids such as lift trucks, cranes and conveyors as a means of bypassing manual "muscle moving," hazards and injuries from this source remain numerous.

All of us are aware that an important and necessary ingredient in arriving at any solution is an accurate spelling out of the problem in question. In this connection, the writer finds himself continually focusing his attention on the strict meaning of an industrial accident involving materials handling.

As generally defined, an accident is an unexpected happening which may result in personal injury, property damage or both. When one examines closely materials handling incidents, is it not realistic to classify certain so-called work accidents as work injuries—not as unexpected, but rather as *inherent* in the job procedures being followed?

Most competent observers attribute the primary cause of materials handling accidents to personal actions under such specific headings as "Unsafe Habits," "Improper Lifting," etc. Safety people work long and hard, trying to come up with more effective means of educating individual workers in safe handling methods. Despite numerous recognized successes here, many efforts are doomed to failure on a long range basis. This suggests to the writer that a reexamination, considering both hazard and inherent injury potential, is called for. And Taylor's fact-finding and analysis techniques seem to provide the most effective means for carrying out this study.

USE OF OTHER STAFF SPECIALISTS

In considering this undertaking, it is realized that a safety engineer is primarily a coordinator of accident prevention activities and not an individual

who knows all the answers to everything. Where firms already employ staff specialists in such areas as methods and time study, is it not reasonable for the safety coordinator to present the fact-finding and analysis assignment to them?

In any event, perhaps it is time for many safety engineers to break out of certain confining wraps, concerning their activities and responsibilities within the organizational framework of their companies, and take a more aggressive interest in methods, particularly as they apply to materials handling. In this connection, a review of process charts, layouts and individual operational studies, plus a questioning attitude—all tools borrowed from methods engineers—is presented in this article.

PROCEDURES FOR FACT-FINDING

The flow process chart is a written record or charting of a materials handling cycle, calling for data on the material to be handled, the methods of handling and transport, the distances moved and similar information pertinent to the problem. The scope of individual cycles naturally will vary with the type of industry involved and its complexity. *(See Fig. 1.)*

In a product manufacturing layout, where the various machines and equipment utilized are placed in connecting sequence (i. e., a chemical operation or a bakery), it is feasible to chart the handling and transport of individual materials from their point of receipt as raw materials to their shipment as finished products.

In a process manufacturing layout, where similar machines and equipment are grouped in departments (i.e., a machine shop), it is preferable to record the handling activity in three separate stages:

1. Raw material and purchased finished part handling, transport and storage.
2. Materials-in-process handling, transport and storage.
3. Finished product handling, transport, storage and shipment.

Coincident with process charts, layouts of the arrangement of production machinery, work centers and auxiliary activities provide means of tracing the physical route of materials and identifying the adequateness of available space.

The individual operational study focuses on the recording of the handling requirements of machine and equipment operators, fabricators, assemblers and materials handlers themselves. While it is admitted that the recording of such operational data in even the smallest company can be extensive, the procedure is simplified greatly, with little loss of thoroughness, by breaking down similar handling routines into a reasonable number of groupings or classifications. *(See Fig 2.)*

Those who have engaged in surveys of any type of business procedure undoubtedly have learned that quick and easy analyses are conspicuous in their incompleteness. The quest for safety in materials handling is no exception; there is no miraculous, overnight cure.

The work involved in compiling written fact-finding records, however, need not be an overwhelming task. Detailed handling data associated with one commodity can be effectively applied to all similar situations. In a paint manufacturing concern, the handling of a drum of one chemical would be employable for analysis of other drum chemicals in similar usage. Recorded data on the handling of small, medium and large castings would have wide, recurring application at turret lathes, milling machines and drill presses.

QUESTIONS TO USE IN ANALYSIS

The gathering and recording of operational data is followed by the analysis phase. Most simply defined, this is a testing out of actual procedures by

FIGURE 2—INDIVIDUAL OPERATIONAL STUDY FOR SMALL WHOLESALE BREAD BAKERY

FLOUR BLENDING—ORIGINAL METHOD

Bags of flour are stacked on floor in the area adjacent to the blending machine. Operator walks 15 feet to 20 feet, picks up 100-pound bag of flour A at storage pile, carries back to machine, sets down, slits bag, lifts four feet to hopper opening, empties. Repeats three additional times with flour A, two times with flour B to complete cycle.

FLOUR BLENDING—REVISED METHOD

Small lift truck and supply pallets acquired. Screw conveyor installed at machine, enabling hopper opening to be lowered to six inches above floor. Bags of flour palletized on receipt, transported and stacked by lift truck in blending area. As required, pallet loads of flour A and B moved to hopper opening by lift truck. Operator drags bags off pallets, slits, empties into hopper opening at floor level. (No actual lifting off floor required.)

a series of pertinent questions aimed at isolating potential injury producing conditions. Suggested questions, some of which overlap for greater assurance of completeness, are as follows:

1. Can the handling operation be eliminated in whole or in part? If a "don't touch" idea is applied diligently and open mindedly, the results may be most fruitful. An important axiom of efficient materials handling often has stated as: "Efficiency in moving materials is best obtained by *not* handling them."
2. Can the handling operation, assuming it is a required one, be carried out in a simpler, safe manner?
3. Does the handling operation call for the transfer of materials from the floor to a conveyance, or vice versa?
4. Are work places so arranged as to require machine and equipment operators and assemblers to do a considerable amount of manual lifting, bending, stretching and positioning in connection with the materials they work with?
5. Concerning individual materials or unitized packages of same which must be manually lifted, are the weights within a reasonable range? Is the added problem of a required positioning element, coupled with a manual lift, taken into account? Are the limitations of female workers allowed for? Where time study is used, do the standards allow for (and enforce the use of) crane time at prescribed weight limits?
6. Are all dangerous properties of the materials themselves accounted for?
7. Are raw materials, materials-in-process and finished parts and products stored in neat, stable piles? Is ease in rehandling taken into account?
8. Are materials of different types, sizes and shapes segregated so as to insure a minimum of reshuffling?
9. Does the plant layout consider adequate storage areas in both warehouse and production areas as necessary adjuncts to efficient and safe operation?
10. Are definite routes of travel established and sufficient unobstructed aisle space available so as to avoid congestion and uncontrolled movement of materials handling equipment?
11. Are overhead cranes, lift trucks and other mechanized handling equipment of sufficient capacity to safely sustain the loads to be applied?
12. Does a preventive maintenance program insure the continued availability of sound equipment?
13. Are employes well grounded in safe handling methods of a routine nature? Are special instructions given employes as to safe handling methods of a nonrecurring nature? Is protective apparel (gloves, safety shoes, etc.) required where potentially hazardous conditions exist?

As these and other pertinent questions are asked about every step in the materials handling process, safety deficiencies evolve. No single handling category can fail to benefit from such a survey.

Underlying all of the foregoing fact-finding and analysis procedure is work simplification, utilizing the well known and oft repeated guiding principle, "The best way is the easiest and safest way."

INCLUDE ACCIDENT ANALYSIS, CLAIM COSTS

In the development and accumulation of the pertinent questions required to test out handling procedures, an analysis of past accidents is invaluable. The worth of the analysis, however, is in direct proportion to the relevance of the accident cause classifications used. It has been this writer's experience that many accident cause classifications have been misleading, almost to the extent that they were unusable. Therefore, it is urged that such data receive careful consideration so that meaningful cause classifications can be established.

A further related subject—pertinent to any organized industrial safety plan—which should be considered, the writer believes, is the item of compensation claim costs. Safety people long have based accident prevention performance on frequency and severity, particularly the former. The true meaning of these statistics is known mainly to the safety people themselves. It is felt that the higher eschelons of management would be much more amenable to and appreciative of safety efforts if claim costs were to be included. Realistically speaking, also, the growing trend toward permanent partial disability awards on nondisabling injuries has watered down greatly the significance of frequency data.

CONCLUSIONS

It is impossible to examine the American industrial scene for long without coming to the conclusion that management is smarter than ever before. This is as it should be. It is evidence of progress. Perhaps it explains in part why one often hears the complaint that it gets harder and harder to compete. Thus, the theme for greater efficiency becomes "Continuing Dissatisfaction."

The best executives usually are those who won't ever admit that everything is going as well as it should. Generally speaking, this may not be a happy frame of mind but it most certainly leads to progress.

Perhaps safety people should enthusiastically embrace "Continuing Dissatisfaction" as respects materials handling. The writer believes that fact-finding and analysis is a blueprint to point the way.

methods and procedures in a MULTI-PLANT safety program

BY JAMES W. TYSSE

■ SAFETY IS AN ALL HANDS JOB and those charged with safety in an industrial operation must realize this fully. They must be aware of the importance of a sound safety program and, also, of the psychology of safety: the need for awakening in every man in a plant the realization that he himself can make an important contribution to his own safety and that of his fellow workers.

At Republic Steel Corporation a multi-plant safety program, in which the writer has participated, has been carefully worked out. Over the years since its inception, frequency and severity rates have been achieved which usually have been better than the average for the industry.

Basic to the planning for this program has been the constant realization that everyone in every plant must be given a sense of participation in the program, with an accompanying awareneses of his own personal responsibility in it.

MANY HELP PLAN PROGRAM

The development of the program has been the work of many minds. The basic structure was established in the early days of the corporation; it has been refined and adapted to changing conditions since but is fundamentally the same today.

A primary consideration in the planning, of course, was the establishment of policies and regulations—consistent with local, state and federal requirements —which could be followed by all plants. These policies and regulations were compiled into a book called *Manual Governing Medical, Workmen's Compensation and Safety Procedure.*

Over the years the book has grown until today it contains 92 pages, giving explicit instructions to safety and operating people. As its title implies, it is divided into three main sections; however, this discussion is limited to the section on safety and the guideposts it supplies for reducing or eliminating accidents.

THREE FACTORS BASIC TO "OPERATION CAP"

Before taking up the subject of the manual in detail, I should like to point out a few principles that we established at Republic for our 1958 safety program, "Operation CAP"—the initials being stressed as meaning *your* Contribution to Accident Prevention. "Operation CAP" was premised on three factors—a basic program, an objective and good communications. The program spotlighted safety performance for top plant management. Any strictly local plans could be coordinated readily into the overall corporate program.

The objective was for each district to better its own top performance in frequency and severity, as recorded during the preceding six years, 1952-1957.

Under communications, we set forth explicit instructions for teletyping or telegraphing immediately to the general office notification of any disabling injury, including a brief description of the accident and the apparent cause. This was relayed immediately to safety people and superintendents of industrial relations. In the event of serious or fatal accidents, the communications described above were preceded by a telephone report.

How did this work out? Fairly well. While performance wasn't all that was hoped for, how many safety records ever meet with the approval of a

James W. Tysse entered safety work in 1936, shortly after his college graduation. He joined Republic Steel in 1944 and became corporate manager of safety in 1955, coordinating programs in steel mills, fabricating plants and iron ore and coal mines. He is active in the National Safety Council and is a member of our Society's Northern Ohio Chapter.

safety man? Significant results were experienced in a number of plants.

That is a very brief picture of Republic's 1958 safety program. Now I should like to review some of the specific points of our manual.

MANUAL OUTLINES COMMITTEE STRUCTURE

The manual calls for the establishment of three basic safety committees throughout the corporation: a Corporation General Safety Committee, plant general safety committees and departmental safety committees. In addition, corporation operating committees assign safety subcommittees and the subject is number one on the agenda in their scheduled meetings.

The Corporation General Safety Committee is composed of the director and assistant director of industrial relations, the manager of safety, all district or plant superintendents of industrial relations, the director of plant protection and the manager of workmen's compensation and social insurance. It serves as adviser on all matters pertaining to accident prevention, workmen's compensation, good housekeeping, fire prevention, etc.

A plant general safety committee consists of the district or plant manager and his assistant, the superintendent of industrial relations and his assistant, the supervisor of safety, the fire marshal and all department heads. It meets monthly to discuss all phases of safety, fire prevention and good housekeeping; it formulates plant safety policies and recommends safety rules and measures.

DEPARTMENTS MUST MEET MONTHLY

The departmental safety committee includes the superintendent, his assistant, all of the department's foremen and, in an advisory capacity, a Safety Department man. Such committees must meet at least once a month. Also, each foreman or assistant foreman is required, monthly, to hold at least one safety meeting or discuss safety personally with each employe under his supervision.

The manual also provides for establishment of an accident investigating committee in each plant and outlines procedures. In addition, subcommittees of corporation operating committees immediately investigate serious accidents and formulate preventive measures which become committee policy.

The manual encourages close cooperation between local engineering and safety departments on all matters pertaining to safety, especially in any new or changed installations being contemplated. Also, the manual emphasizes the importance of making routine health surveys. And it provides for a rehabilitation committee to place employes disabled in previous accidents on jobs they can perform.

Occasionally, changes or additions to the safety program are made and these are incorporated into the manual by reference—for example, the monthly poster and leaflet program which was started in 1948. Under this program, the Safety Department each month selects a subject for development by an advertising firm. Billboard and bulletin board posters are printed for display in all plants and safety leaflets are prepared and distributed to employes.

After the establishment of general policy on safety, the manual devotes a large section to the required general and special reports, such as Unsafe Practice, Fire Extinguisher, Foreman's and Weekly Accident Reports and inspection reports for ladles, chains, cranes, ore bridges, turbines, fly wheels, air receivers, etc. A number of these reports call for appointment of district or plant committees to make inspections and submit their findings and recommendations periodically.

A section on references to the general safety orders and special rule books concludes the manual. Mention also is made of procedures for providing information about accidents to newspapers.

PUBLISH GENERAL ORDERS SEPARATELY

The general safety orders and special rule books which I mentioned above are listed in a separate book, which also contains provisions for current meeting material, foremen's instruction sheets and the district safety orders made up in various districts or plants to cover special local conditions.

Basically, this is the planned safety program of Republic Steel Corporation. It is administered through and by the Industrial Relations Department, with direction and supervision at both the general office and plant levels.

To insure adherence, each facility is inspected thoroughly at least twice a year by representatives from the corporation's General Safety Office, who check all matters pertaining to local administration of the program and advise on improvements.

Each district or plant manager is held responsible for safety in his own operation. Usually, the safety results achieved are in direct ratio to the manager's interest in the program. We have found that safety is more than just following the book. A good program frequently includes elements which are above and beyond the basic principles. These include diversifying educational techniques and, in general, advertising and selling the importance of safety as a program of mutual benefit to everyone.

BY ROBERT J. DOUGHERTY

SAFETY'S FUTURE: BREAKTHROUGH!

present methods have produced excellent results but different weapons are necessary to future advances in the war against accidents

GREAT STRIDES HAVE BEEN MADE, to date, to prevent the wasteful loss of human life, the unnecessary personal suffering and the neglectful destruction of property due to accidents.

Government and private industry for the most part have acknowledged their responsibilities in this respect and are doing outstanding jobs. From top management down to the supervisor, a chain of command is functioning to get across the safety message to the employe. A great attack on accidents has been going on for many years and not without results.

But the time is at hand when we must discard the tired, worn out campaign banners—"We must educate the employe in safe practices," "We must design guards on our machines," "We must have management support." These banners have led us to many victories; however, generally speaking, they apply now to battles that have been fought and won —only a few guerilla fighters remain.

NEED NEW PLANS TO AVOID STALEMATE

While all current safety activities should be continued to mop up these lone snipers and to maintain a constant patrol against new outbreaks along the presently established accident front, we now need some new banners and some new battle plans to help us advance our fight substantially. We must, indeed, effect a major breakthrough to carry on our safety crusade, else we soon will be confronted with a war that has reached a stalemate.

We must regroup and retrain our forces. Through hand to hand combat we have won the day against mechanical failure; we have been victorious in enforcement of safety rules, in use of visual aids and in employe training; we even have advanced on the field of traffic safety, as far as possible by hand to hand combat.

But the battle of the ages—the most difficult of all—has yet to be fought. The majority of accidents today are caused by people—people who, as individuals, have not been able to understand, accept and act on the premise that each of us must be seriously concerned with preventing injuries to ourselves, that our own lives and welfare, our most important personal considerations, are at stake.

MUST REACH HEART AND MIND OF NATION

To win on this personal front, we need the most modern methods available. We in safety must conduct a full scale "warm war"—a war that will hit every heart and mind in the nation.

Today a vast amount of industrial safety ammunition comes to the average employe from his employer. What is being given to him is good, but entirely too much is coming from the same direction.

In our national safety programs, on the other hand, we have been fighting on too small a scale, mainly in traffic and home safety. The attack must be

Robert J. Dougherty, director of safety for Stearns-Roger Manufacturing Company, has been in safety work for the last 14 years. A member of our Society since 1949, he currently is serving as general chairman of the Colorado Chapter and, in the past, has headed the chapter's safety work with JA. He also is active in the Construction Section of NSC.

broadened to include industrial safety, with our sights taken off management and supervisors and turned on John Doe, the individual.

As individuals, we find it very difficult to see "what's in it for me" when the bulk of industrial safety is coming at us from one direction, our employer. The only way to win for safety is from behind the enemy lines, through infiltration.

We need campaigns nationally that actually reach all Americans. One might say, "It can't be done." But national campaigns have placed Elvis Presley and Burma Shave in the minds of almost everyone in the country. We have all the "know how" necessary for this kind of program. All we have to do is aim our weapons straight to John Doe, the individual, everywhere he is found. We need to bombard him from his TV set, the newspaper or magazine he reads, his radio set, the movie screen and every other medium of communications. All of this can be done in a manner both factual and entertaining—perhaps we might call it a sneak attack.

OUTLINES THREE POINT ATTACK PLAN

How is this to be accomplished and by whom? A natural outlet would be a special division added to the National Safety Council, devoted specifically to intelligent advertising of *industrial* safety—not only spot announcements of safety on TV and radio and a bombardment of safety slogans, but concentrated, down to earth "John Doe style" material. The following is a thumbnail index of what the writer feels needs to de done:

1. Human interest articles, factual in nature and related to safety, should be requested from all members of the American Society of Safety Engineers. This should provide a backlog of material that, skillfully rewritten, could be submitted to popular general magazines such as Reader's Digest, Coronet, Look, Life, This Week, Saturday Evening Post, etc., as well as the leading magazines for women and religious and union publications. Perhaps magazines which carry monthly health articles also could be sold on a monthly safety article.

2. Television scripts with an action-packed human interest story, related directly or indirectly to safety, should be written for the various playhouse type programs and sold to sponsors. If emotional programs can be built around doctors, ministers and gangsters, then certainly an excellent series could be built around industrial accident prevention specialists. There is nothing more emotional or dramatic than the devastation wrought by accidents: dreams shattered, promising careers snuffed out, once prosperous families left destitute.

It also is true that many feature movies have been made about the medical profession and its members, as well as about lawyers, scientists and others with professional status. It is time to sell the motion picture industry on the idea of a humanitarian move based on the safety profession.

3. Paid safety advertisements should be placed frequently in such magazines as are normally found in the average household. Monsanto's informational messages on laminated safety glass, which have been appearing in Reader's Digest, are the type of safety advertisements needed for industrial safety, I believe. Some magazines may carry such material as a public service. Perhaps other ads could be paid for by small contributions from private industry. Some industrial firms and insurance companies might sponsor individual ads.

Would such articles, ads and dramas be effective? Reader's Digest alone has 35,000,000 readers—that's a lot of John Does. Results? An article on health in this magazine some time ago merely mentioned that smoking may be a contributor to cancer. No actual facts were given to prove this completely; only a relationship was shown. Yet, many thousands who read the article either cut down, changed to filter tips or cut out smoking entirely. Many of these same people had been told previously by their own doctors, often for more immediate and compelling reasons, to cut down or quit smoking but had ignored the advice.

Why, then, was the article so effective? Simply because people read it for themselves and thereby became satisfied that their doctors had known all along what was best for them.

WILL SELL WORKERS ON PLANT PROTECTION

If more workers, and their families, could read for themselves, in general circulation publications, comparable material on safety, accidents caused by personal inattention would be reduced greatly. I believe that these workers would put the safety instructions of their employers into action as never before—not because the employers said so, but because one of their favorite magazines (or movies or TV shows) implied that these people should think of their own safety.

It's our job, as professional safety specialists, to see that our product is put into a package that will sell John Doe, the individual. We need a national industrial safety program.

chapters of the american society of safety engineers

ALABAMA
Birmingham, Alabama

ARKANSAS
Little Rock, Arkansas

ARK-LA-TEX
Shreveport, Louisiana

BATON ROUGE
Baton Rouge, Louisiana

BOSTON
Boston, Massachusetts

CENTRAL FLORIDA
Orlando, Florida

CENTRAL ILLINOIS
Peoria, Illinois

CENTRAL INDIANA
Indianapolis, Indiana

CENTRAL NEW YORK
Syracuse, New York

CENTRAL OHIO
Columbus, Ohio

CHATTANOOGA AREA
Chattanooga, Tennessee

CINCINNATI
Cincinnati, Ohio

COLONIAL VIRGINIA
Richmond, Virginia

COLORADO
Denver, Colorado

CONNECTICUT VALLEY
Springfield, Massachusetts

CORPUS CHRISTI
Corpus Christi, Texas

DELAWARE COUNTY
Marcus Hook, Pennsylvania

EAST TENNESSEE
Knoxville, Tennessee

EASTERN NEW YORK
Albany, New York

FORT WORTH
Fort Worth, Texas

GENESEE VALLEY
Rochester, New York

GEORGIA
Atlanta, Georgia

GREAT PLAINS
Omaha, Nebraska

GREATER CHICAGO
Chicago, Illinois

GREATER DETROIT
Detroit, Michigan

GULF COAST
Houston, Texas

HAWAII
Honolulu, Hawaii

KANSAS CITY
Kansas City, Missouri

LANSING
Lansing, Michigan

LOS ANGELES
Los Angeles, California

LOUISVILLE
Louisville, Kentucky

McKINLEY
Akron, Ohio

MEMPHIS
Memphis, Tennessee

METROPOLITAN
New York, New York

MIDDLE TENNESSEE
Nashville, Tennessee

MILWAUKEE
Milwaukee, Wisconsin

MOBILE
Mobile, Alabama

MOHAWK VALLEY
Utica, New York

NEW JERSEY
Newark, New Jersey

NEW MEXICO
Albuquerque, New Mexico

NEW ORLEANS
New Orleans, Louisiana

NIAGARA FRONTIER
Buffalo, New York

NORTH CAROLINA
High Point, North Carolina

NORTH FLORIDA
Jacksonville, Florida

NORTHERN OHIO
Cleveland, Ohio

NORTHWEST
Twin Cities, Minnesota

OKLAHOMA CITY
Oklahoma City, Oklahoma

PANHANDLE
Borger, Texas

PENN-JERSEY
Trenton, New Jersey

PERMIAN BASIN
Midland, Texas

PHILADELPHIA
Philadelphia, Pennsylvania

PORTLAND
Portland, Oregon

PUGET SOUND
Seattle, Washington

QUEBEC
Montreal, Canada

RHODE ISLAND
Providence, Rhode Island

SABINE-NECHES
Beaumont, Texas

SACRAMENTO VALLEY
Sacramento, California

ST. LOUIS
St. Louis, Missouri

SAN FRANCISCO
San Francisco, California

SOUTH CAROLINA
Columbia, South Carolina

SOUTH TEXAS
San Antonio, Texas

SOUTHWEST
Dallas, Texas

SPOKANE
Spokane, Washington

TULSA
Tulsa, Oklahoma

UTAH
Salt Lake City, Utah

WASHINGTON
Washington, D. C.

WEST VIRGINIA
Charleston, West Virginia

WESTERN MICHIGAN
Grand Rapids, Michigan

WESTERN PENNSYLVANIA
Pittsburgh, Pennsylvania

WICHITA
Wichita, Kansas

WORCESTER COUNTY
Worcester, Massachusetts

AMERICAN SOCIETY OF SAFETY ENGINEERS

Membership Information

THE American Society of Safety Engineers has established the following classifications of active membership.

MEMBER — To be eligible as a Member an applicant shall be at least thirty years of age and shall be engaged in safety engineering. In addition, he shall have either an engineering or science degree in an accredited college curriculum and the equivalent of eight full years' experience in safety engineering; or he shall have had the equivalent of ten full years' experience in safety engineering.

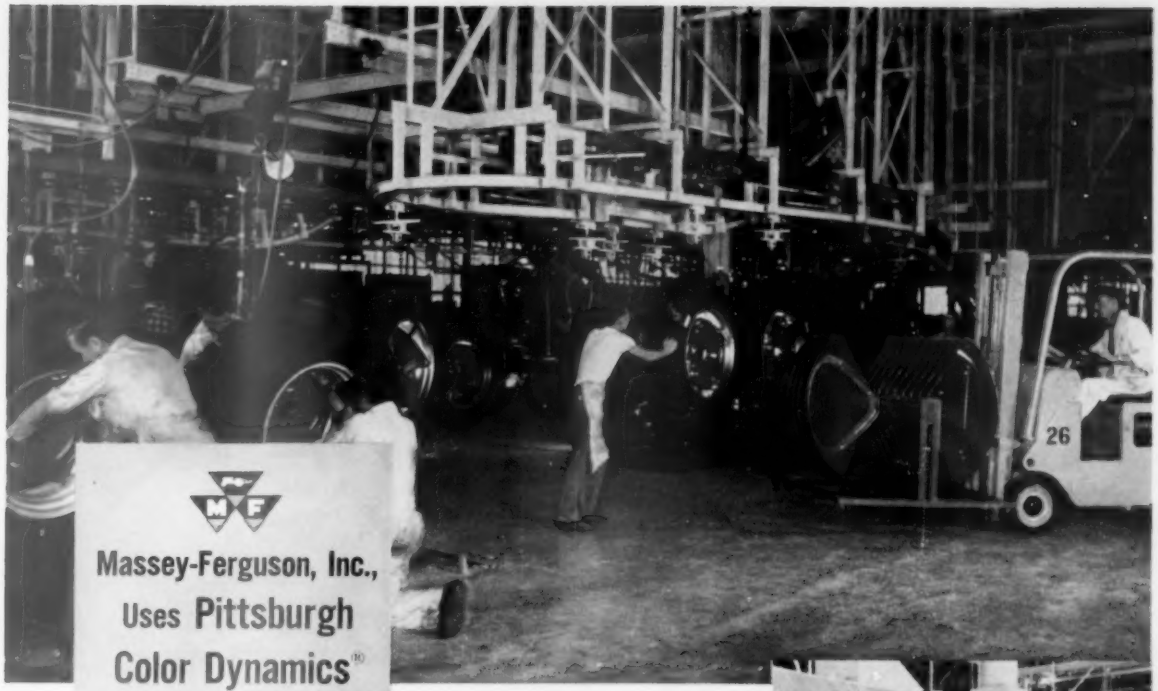
ASSOCIATE MEMBER — To be eligible as an Associate Member an applicant shall be at least twenty-five years of age and shall be engaged in safety engineering. In addition, he shall have either an engineering or science degree in an accredited college curriculum and the equivalent of three full years' experience in safety engineering; or he shall have the equivalent of five full years' experience in safety engineering; or he shall have either an engineering or science degree in an accredited college curriculum, ten years' experience in professional engineering work and one full year's experience in safety engineering; or he shall have twenty years' experience in engineering work, of which at least ten have been at the professional level, and one full year's experience in safety engineering.

JUNIOR MEMBER — To be eligible as a Junior Member an applicant shall be at least twenty years of age and shall be engaged in safety engineering work, which if pursued the required time will tend to qualify the applicant for the classification of Associate Member. In addition, he shall have either an engineering or science degree in an accredited college curriculum or he shall have had the equivalent of one full year's experience in safety engineering.

AFFILIATE MEMBER — The Society also provides a special classification, that of Affiliate Member, for those not professionally engaged in safety engineering. To be eligible as an Affiliate Member an applicant shall be at least twenty-five years of age and shall have contributed to the advancement of safety engineering through demonstrated achievement in some related field of interest in which he has been engaged for at least three years.

for additional information write to

The American Society of Safety Engineers
5 North Wabash Avenue, Suite 1705
Chicago 2, Illinois
(or contact your local chapter)



Massey-Ferguson, Inc., Uses Pittsburgh Color Dynamics®

to improve productive efficiency, and safety in huge Detroit tractor assembly plant

Another leading example of the way Pittsburgh COLOR DYNAMICS improves productivity and welfare of workers is the enlarged Detroit plant of Massey-Ferguson, Inc., world-famous builder of tractors and combines.

● **This modern system** of painting was included in the $3,500,000 expansion program which tripled capacity and made this one of the world's largest tractor assembly plants. All Massey-Ferguson tractor engineering and assembly operations for North America are now concentrated here.

● **Interior** of the enlarged and modernized Detroit assembly plant was painted according to COLOR DYNAMICS principles. Colors for walls and ceilings were selected to raise the light level of all work areas. Overhead distractions were subdued. Safety colors were used on operating controls, mobile equipment and traffic lanes.

● **Massey-Ferguson's satisfaction** with the results of COLOR DYNAMICS is expressed by J. L. Gilliam, General Factory Manager of the Detroit assembly plant. "Our experience," he states, "convinces us there are dollars-and-cents advantages in this purposeful use of color. It has materially improved the productive efficiency and safety of our workers.

● **"Moreover,** improvement in the general appearance of our plant has enhanced morale. Being proud of their cheerful surroundings, our employees strive to keep them clean. This simplifies housekeeping. And we enjoy these benefits of COLOR DYNAMICS without paying more than we would for conventional maintenance painting."

● **Why not see** what COLOR DYNAMICS can do in your plant? Try it on a machine or two, or in a whole department and see the difference in efficiency, morale and safety.

You Can Have a Color Program for Your Plant—FREE

● Send for our comprehensive fully illustrated book which explains simply and clearly the principles of COLOR DYNAMICS and how to use them effectively. It's FREE. Better still, we'll prepare a detailed color program for your plant, or any part of it, without cost or obligation. Just call your nearest Pittsburgh Plate Glass Company branch and arrange to have a representative see you. Or mail coupon at right.

Featured on the Garry Moore Show—CBS-TV Tuesday evenings.

PITTSBURGH® PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Send for a Copy of this FREE Book

Pittsburgh Plate Glass Co., Paint Div.,
Department NSN-59, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your booklet "COLOR DYNAMICS."

☐ Please have your representative call for a COLOR DYNAMICS survey without obligation on our part.

Name_____

Street_____

City_____ County_____ State_____

CLIFFORD F. HOOD

Portrait by Fabian Bachrach

"U. S. Steel employees invest more than $2,400,000 a month in U. S. Savings Bonds"

"Those enrolled in the Payroll Savings Plan for U.S. Savings Bonds alone save the equivalent of one and one half $25 bonds a month.

"For those investing in U.S. Savings Bonds under the Savings Fund Plan, each is averaging more than one $25 bond per month.

"The response of our employees to the Payroll Savings Plan for Savings Bonds is evidence of their faith in the nation. We are proud of their record in saving systematically in E Bonds, thus participating in a program of planned thrift while helping to build America's power to keep the peace."

CLIFFORD F. HOOD, ***President and Chairman, Executive Committee, United States Steel Corp.***

Today there are more Payroll savers than ever before in peacetime. If employee participation in your Payroll Savings Plan is less than 50% . . . or if your employees now do not have the opportunity to build for their future through the systematic purchase of U.S. Savings Bonds, give your State Director an opportunity to help. Look him up in your phone book. Or write: Savings Bonds Division, U.S. Treasury Dept., Washington, D.C.

NATIONAL SAFETY COUNCIL

THE U. S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE.

Langlie Heads Council's Religious Leaders Group

ARTHUR B. LANGLIE, former governor of Washington and now president of McCall Corp., has accepted chairmanship of the National Safety Council's National Committee of Religious Leaders for Safety.

Mr. Langlie's acceptance was announced recently by Walter F. Carey, chairman of the Council board of directors. Mr. Langlie succeeds Louis B. Seltzer, editor of the *Cleveland Press*, as chairman of the committee.

The new chairman, 58, is a prominent and active Presbyterian layman. McCall Corp. publishes two religious magazines—*Christian Herald* and *Presbyterian Life*—in addition to *McCall's* and other magazines. *Presbyterian Life* has a circulation of over one million—the largest in the country.

Purpose of the National Committee of Religious Leaders for Safety is to develop and guide work of the Council with religious leaders.

The committee, whose members live in all sections of the United States, includes religious educators, religious editors and representatives of the various denominations. It consists of lay as well as clerical leaders.

Mr. Langlie, two-time Seattle mayor and a former lawyer there, served three terms as governor of Washington.

He was one of the first governors in the nation to use a moral appeal for safety to drivers and pedestrians.

A resident of Lanesboro, Minn., he was graduated from the University of Washington with degrees in the arts and law.

In 1954, President Eisenhower appointed him delegate to the International Labor Organization meeting in Geneva.

Members of the National Committee of Religious Leaders for Safety include the Very Rev. Msgr. George Higgins, of the National Catholic Welfare Conference; Rabbi Marc Tanenbaum, of the Synagogue Council of America; the Rev. Dr. William J. Villaume, of the National Council of Churches of Christ in the U. S. A., and Erwin D. Canham, editor of the *Christian Science Monitor*.

BERYLLIUM! Make danger an old-fashioned word. Today's modern tools . . . made of low-cost beryllium copper . . . put an end to spark threats, and cut out chance of costly fire and explosion. Added plus values: these up-to-date tools are non-magnetic and cannot corrode. Workers like their strength and handling ease too.

BERYLCO®

SAFETY TOOL DIVISION

THE BERYLLIUM CORPORATION

P. O. Box 1462, Reading, Pennsylvania

Please send me a free copy of your new safety tool catalog. Include the name of my nearest distributor.

NAME_____

TITLE_____

COMPANY_____

CITY_____ ZONE_____ STATE_____

Circle Item No. 30—Reader Service Card

Pittsburgh Paint key
← Circle Item No. 29—Reader Service Card

To Understand Behavior, Look for the Attitudes

There's nothing unique about safe or unsafe behavior; it's part of the whole behavior pattern. And attitudes are behind the pattern

IT IS NOW generally accepted that we have reached a point of diminishing returns from physical safeguards; further progress is a matter primarily of human factors and their control. A synthesis of research findings and opinion based on experience suggests the following outline of the problem.

1. The psychology of safe behavior is no more and no less the psychology of human behavior in general. In this regard, *attitudes* are of fundamental importance. Such "psychophysical" traits as reaction time are purely incidental.

2. Working, as in driving a motor vehicle, is essentially a social undertaking, where cooperative behavior and a sense of social responsibility are predominantly needed. Attitudes such as these cannot be considered apart from *personality* patterns—and the latter are likely to be rooted in the early years of life.

3. A person has to have some measure of *satisfaction* in his need for affection, his need for personal security, and his need for personal significance to develop and carry on in a way that will enable him to enact social roles involving effective participation with others, as in working and driving.

4. Failure to satisfy these needs sufficiently may not only have serious attitudinal consequences but may concurrently result in physical disturbances affecting safe and efficient production.

5. It is through *group dynamics*—the interpersonal or social influences in such processes as group discussion, group discussion-decision, and role-playing—that we have techniques equal to the difficult task of improving attitudes. But expert programming is essential.

6. *Enlightened discipline* also has an important and valuable part to play in promoting safe behavior through modification of attitudes, particularly when other methods apparently are inadequate in themselves or impractical.

Requiring an individual to meet his responsibilities for living and working productively "creates no hazard to his physical health compared to the very real danger to his mental health where his symptoms permit him to evade his obligations." Thus, enlightened discipline has a sound basis in mental hygiene.

7. No attitude toward safety is sound if it fosters an unhealthy fear of an activity—or if it means a lessening of the intelligent or *calculated types of risk-taking* that have in the past produced, and will contime to produce, social progress and welfare.

Applying the Knowledge

How can this new knowledge be applied in industrial operations? What are the implications for safety programming? Here are several practical program suggestions—not necessarily new in concept but surely worthy of re-emphasis. They apply more or less to all types of business and industry, because in all types the crucial human element is a common denominator.

1. An unhurried orientation program for the new employees. It's a good idea to get the new man started right. Make him feel at home. Spell out his job for him. Show him how he belongs. This is essential for early job satisfaction.

It should help to reduce the high labor turnover and relatively high frequency of accidents characteristic of the first six months of employment in almost every major industry.

2. Careful pre-service training is necessary to the extent warranted by the level of experience you have set as a minimum requirement for employment. And, as an important part of this training, get your new men to recognize the conditions that may make them temporarily accident prone.

3. Intelligent supervision is made possible by adequate management training programs, including training not only in operations but also in human relations. Remember: good human relations are an antidote for antisocial behavior, a primary cause of accidents.

4. Special training programs involve programs that cover new operations and new equipment, plus remedial programs to correct faults that have developed despite precautions. Observe your men from time to time, and analyze their errors. Utilize data obtained from studies of near-accidents, a valuable source of information. This might well be done in pre-service training, too.

5. Worker partnership in safety. It is a good idea to let everyone have a feeling of responsibility for plant safety. Get them involved in the safety program. Competition and special incentives can be used to advantage. Have the employees

---

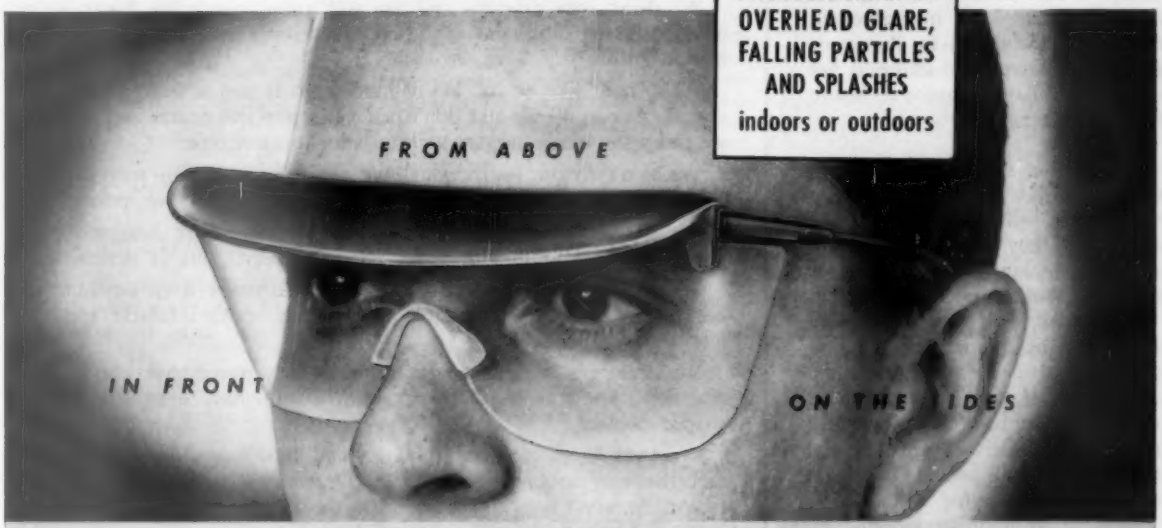
By LEON BRODY, Ph. D.

Director of Research, Center for Safety Education, New York University. Before the Textile Section, 46th National Safety Congress.

THIS IS THE **NEW**

3-D IN EYE SAFETY!

Eyeshade-brow bar PROTECTS AGAINST OVERHEAD GLARE, FALLING PARTICLES AND SPLASHES indoors or outdoors



THE USSSCO EYESHADE SPEC

New Series 26 All-Plastic SAF-I-SPEC®

- Cable temples hold brow bar snugly against forehead, even when leaning over—can be quickly adjusted to fit any face.
- One size fits all, men and women. Fits over wide frame personal spectacles.
- Large lens area, 11½ sq. in., offers maximum protection.
- One-piece safety lens has individual 6-base curve for each eye. Easily replaced without tools. Will not pit.
- Modern styling. Frames in attractive silver gray.
- Lightweight, comfortable — weight just over 1-oz. Plenty of ventilation —no fogging!
- Clear or green lens, with or without matching plastic wraparound side shields.

USSSCO
Symbol of highest quality and assurance that product meets all ASA Code and Federal Specifications.

Write for complete USSSCO Catalog

All equipment in the USSSCO line is designed, manufactured, and sold direct to the user by United States Safety Service Company. There's a trained, full-time USSSCO Safety Service Engineer near you. See Yellow Pages, or write Kansas City.

UNITED STATES SAFETY SERVICE CO.
BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

1535 WALNUT ST., KANSAS CITY 8, MISSOURI

Div. A-5 In Canada: PARMELEE, LTD., Toronto & Montreal

Circle Item No. 31—Reader Service Card

work together on safety teams and committees. Emphasize group responsibilities and decisions. Obviously, organized labor can be very helpful here.

6. Family partnership in safety. The family unit can have a vital influence on the safety of the breadwinner on and off the job. It is well to sell safety to the key figure in the home. This can be accomplished in various ways.

Plant tours by wives, highlighting safety, is one possibility. A special issue of the employee magazine can be directed toward wives. Parties or picnics for wives and children are another excellent measure to insure family partnership in safety.

7. Periodic surveys of employee morale and job satisfaction. If these surveys are well designed and well conducted, they should reveal valuable information. But it is valuable only if you do something about it.

Of course, not every expression of opinion by a worker is a sound one. And, no doubt, there are some expressions of sound opinion about which little can be done for practical reasons. But you will probably find these surveys still provide considerable opportunity for you to do something to improve morale and satisfaction, and, therefore, efficiency and safety.

8. Enlightened discipline. This is inherent in good supervision and good management. It is not authoritarian or punitive *per se*. It is procedure involving, serially: explanation, advice, warning, and appropriate disciplinary action when previous measures have failed to accomplish the desired result. Case interviews, as an example of this procedure, are likely to have educational effects in terms of desirable modification of attitudes (or behavior).

The supervisor or manager may well say all these recommendations cover a lot of territory; that his work load is already substantial; that there are administrative and operational difficulties in the way of establishing such programs as group discussion, group discussion-decision, role-playing, and case interviews.

There is no question about this. I offer these measures as suggestions in tackling the basic problem of safety attitudes . . . and to point out that some of these activities are being used by some of the most successful companies in American industry.

Not only does research indicate that such programs hold the answer to the problem; apparently user companies are finding that these programs are more than paying for themselves, when tailored to local conditions and needs. The criteria for this? Not only a safer operation but increased efficiency, economy, and production.

Farm Safety Week To Be July 19-25

"Safety makes sense."

This will be the theme of the 16th annual National Farm Safety Week to be observed July 19-25.

The special week, proclaimed by President Eisenhower, is sponsored jointly by the National Safety Council and the U. S. Department of Agriculture.

The purpose of the observance, says the Council, is to promote safety and accident prevention on American farms—in the field, in the home and on the highway.

Leading farm organizations are endorsing the seven-day safety campaign.

Each year more than 12,000 farm residents are killed in accidents and another million are injured. There are more accidental deaths in farming than in any other major American industry.

BUG ME!

BUG ME on this bit, Man!

Judgment gets warped when we face similar situations repeatedly.

We go to the track, bet on the long shots, and go home with a fistful of loot. Next time we try the same and lose a bundle.

We drive through a stop intersection every day for months. Seldom see another car so get in the habit of making a rolling stop and taking off without looking. Whammo! One day we've had it.

We work on a machine without a guard. Get used to the cycle and mentally compensate for the danger. One day our timing is off, or something unusual happens, and Whammo! Look Ma, no hands.

We drink four martinis and are still ambulatory. We figure we're booze-drinking fools and next time try driving too. Whammo! We've had it.

We're built like an ox. We're hard as nails and athletic all through school. At age 40 we still don't believe in physical exams and one day we end up in major surgery with questionable outcome.

We don't follow instructions. We make up our own way and for 10,000 times we're right. The next time we find out why we were wrong.

For 10 years we weren't hit in the eye so never bothered with goggles. The 10-millionth sliver puts an eyeball out of commission.

We handle heavy objects all the time and never drop anything on our feet. One day, Whammo! We find we aren't infallible and our feet aren't expendable.

We cheat on our income tax return. They never have checked up and there are millions of taxpayers. We soon have a new vertically-striped home.

We tend to pattern our thinking and base our decisions on past facts that may no longer be accurate. Or, we assume that one prominent factor, "it won't happen to me," was the sole reason for success.

You're a real cube if you inhale this drag, Man!

ROBERT D. GIDEL

Tuffy Tips —on safe use of Slings and Hoist Lines

Safety Council Cites Factors In Lifting Injuries

The National Safety Council points out that nearly a fourth of all compensation cases are the result of unsafe handling methods or conditions, and lists the following as factors contributing to handling injuries:

"(a) Handling loads that are too heavy; (b) lifting or lowering with the back muscles instead of the leg muscles; (c) handling load with an insecure grip and failing to watch where hands are placed; (d) handling without sufficient help or failing to use mechanical equipment; (e) handling before getting a firm footing; (f) lifting or lowering with a jerking, twisting movement of the body, or when the body is in an awkward position."

Maintenance Tips for Hoisting Equipment

(1) Be sure crane and hoist controls are in proper working order. Don't use equipment that hasn't been tested recently.

(2) Inspect hitching equipment before it is used. Recheck after use.

(3) Remove hitching equipment not in use from hooks, hoists and loads. Don't allow it to remain loose.

(4) Store slings systematically when they're not in use. Don't let them lie around helter-skelter. They may be damaged between lifts.

Proper Sling Fittings Assure Greatest Safety and Efficiency

Fittings used on Tuffy Slings are of the most improved types and are factory-fitted on the Tuffy Sling you order. Or, if you prefer, you can fit them in your rigging loft. Shown here are two of these Tuffy Sling fittings.

Newco Gripper Sling Hook:

Fitted with a spring that bears against the sling. This holds slide hook at any position on sling, thus preventing it from sliding down to the sling eye each time it is unhitched. Easily positioned for each new load. Hook readily chokes into position when load is applied.

Sliding Hook

The smoothly rounded saddle slides on the sling leg with minimum wear to tighten on the load. Made of extraordinarily tough manganese steel to afford an ample factor of safety on rated loads. Designed with steel distributed in relation to stress lines.

Tuffy Hoist Line: Perfect Team Mate for Tuffy Slings

Tuffy Hoist Line is a special rope construction for use on all types of overhead cranes, derricks and clamshells. It has the right combination of strength, flexibility and toughness for greatest safety and longest life in its wide range of uses.

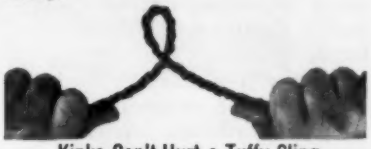
See Your Tuffy Distributor for the Most In Sling and Wire Rope Service

Ferrule Safety is a Part of Sling Safety

The steel ferrule is applied under tremendous pressure. It holds so tight that the eye splice has 100% of fabric strength. It's smoothly tapered to meet the main body of the sling. No abrupt edges or sharp projections. The extra quality and safety of Tuffy's pressed-on ferrule is yours at no extra cost.

Tuffy Braided Wire Fabric: Successor to Wire Rope in Slings

The secret of the extra strength and greater flexibility of Tuffy Slings is also the secret of their greater safety. It's the exclusive, patented, machine-braided fabric. You won't find it in any other sling. It means longer sling life, easier handling and greater ability to take deadloads, shocks and impact with safety.



Kinks Can't Hurt a Tuffy Sling

One of the first rules of ordinary wire rope safety: never use a sling that has been kinked. The wires are permanently bent, damaged and weakened. Not so with Tuffy Slings. Tuffy's patented, 9-part machine-braided fabric is just about impossible to kink. And if it does, under some unusual condition, you can straighten out the kink with ease—leaving no material damage.

FREE! New Tuffy Sling Handbook

Revised and enlarged edition. Covers slings from A to Z. Gives types, dimensions, weights, rated loads, proper fittings. Even includes safety-approved standard signals used in operation of various equipment. Send for your free copy now. Address **Union Wire Rope Corporation, 2224 Manchester Ave., Kansas City 26, Mo.** Specialists in high-carbon wire, wire rope, braided wire fabric and stress relieved wire and strand.

UNION Wire Rope

S-3

Subsidiary of ARMCO STEEL CORPORATION

OTHER SUBSIDIARIES AND DIVISIONS: Armco Division • Sheffield Division • The National Supply Company
Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Southwest Steel Products

New steels are born at Armco

Circle Item No. 32—Reader Service Card

WITHOUT fire-resistant fluid I probably wouldn't be in this office, and I doubt if there would have been much left of the building, says Author Martin.

Saved by a Hunch

The machinery salesman didn't think a fire-resistant hydraulic fluid was needed but they decided to play it safe

NOT LONG AGO the decision to use a fire-resistant hydraulic fluid prevented possible worker injury, saved expensive machinery, and kept a factory from going up in flames.

It was a decision played by hunch, but the results proved one thing: if hydraulic equipment is adjacent to molten metal, heated metal surfaces, or sources of ignition, it's risky to use a flammable hydraulic oil.

We had decided to expand our machine and tooling operations to include die casting of electronic and hardware items. At the time of the purchase we asked the die-casting machine representative whether to use a conventional mineral oil or a fire-resistant hydraulic fluid.

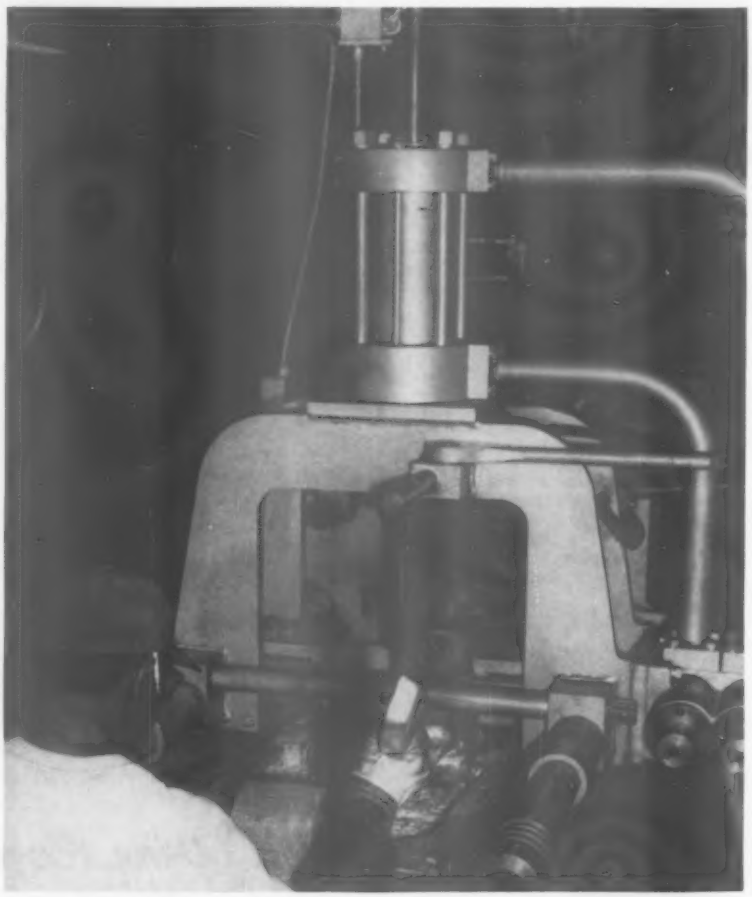
He was noncommittal. About 50 per cent of the die casters used a flammable oil, he said, and he didn't believe there was any danger in our operation.

But we decided to play it safe. When we visualized molten aluminum or zinc close by, with pressure up to 1,000 psi in the hydraulic system, and with hoses and couplings susceptible to leaks and ruptures, it seemed logical to charge the machine with a fluid that offered safety.

After the die-casting machine had been installed, a short-run job was completed and workers set up the zinc head for the next job. Two pieces had been cast when the main cylinder over the pot of molten zinc cut out. At this moment the entire 400-ton pressure of the machine was exerted on one of the cylinder rods. The rod shot toward the roof, tearing a large chunk out of a steel I-beam.

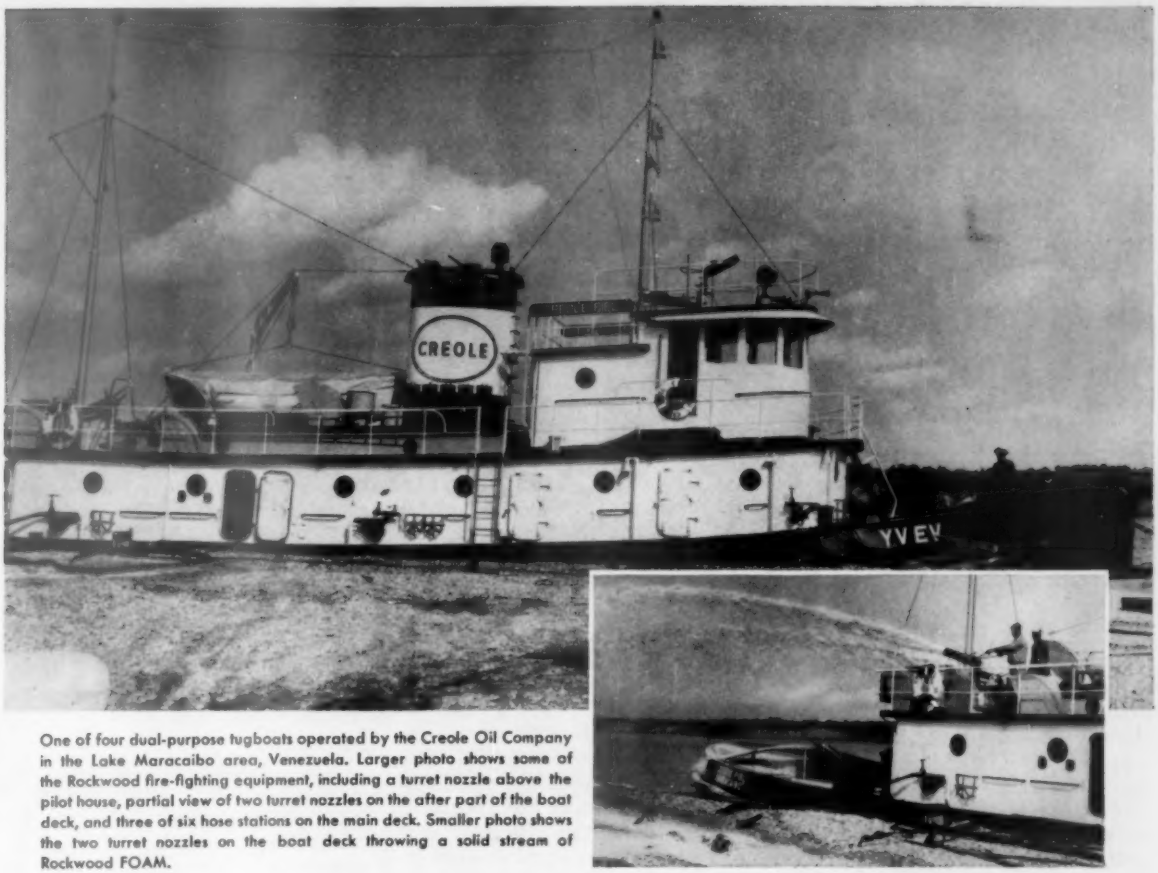
The fire-resistant hydraulic fluid, Irus fluid 902*, was pressurized out of the hydraulic system at 1000 psi, filling the room with a fine mist. With unusual presence, the operator shut off the unit's power to stop the pumps. In just four seconds,

* Reg. Trade Mark, Shell Oil Company.



POT OF MOLTEN ZINC is directly beneath cylinder. At time of accident, rod in cylinder shot up to the roof. Despite quick shutoff of power 95 gallons of hydraulic fluid were lost in a few seconds. Much of it sprayed right into the molten metal but there was no fire.

By WILLIAM MARTIN
President, Cambridge Tool & Manufacturing Company, Somerville, Mass.



One of four dual-purpose tugboats operated by the Creole Oil Company in the Lake Maracaibo area, Venezuela. Larger photo shows some of the Rockwood fire-fighting equipment, including a turret nozzle above the pilot house, partial view of two turret nozzles on the after part of the boat deck, and three of six hose stations on the main deck. Smaller photo shows the two turret nozzles on the boat deck throwing a solid stream of Rockwood FOAM.

Tugboat doubles as a powerful fireboat

Rockwood FOAM system adds valuable protection against fire damage, afloat or ashore

Besides their daily value in towing jobs, Creole Oil Company tugboats have considerable emergency value. With their Rockwood automatic FOAM systems they can fight the toughest fires with the most modern equipment.

Each vessel carries 1500 gallons of Double-Strength FOAM, from which 400,000 gallons of expanded FOAM can be generated. Using expanded FOAM at maximum output, the automatic system can operate for 30 minutes.

The three Rockwood turret nozzles, one on the pilot house and two on the after boat deck, are under direct manual control. The three hose stations shown are duplicated on the other side of the vessel. Rockwood discharge equipment includes four 1½" SG-60 nozzles with FF extension units, four 2½" FFF nozzles and two 10′ and 12′ low-velocity extension applicators.

Rockwood automatic controls enable discharge of FOAM or water, separately or in desired proportions, from all turrets and stations. With controls set . . . starting the pumps for FOAM and water is all that's necessary to assure fast, trouble-free operation and to free all hands for other fire-fighting duties. In addition, the Double-Strength FOAM aboard can be quickly fed into on-shore piping or hose systems, for fighting fires too far inland from the tugboat.

Protective advantages like these are typical of Rockwood systems and products on ships, land vehicles or stations. Tested and listed by Underwriters' Laboratories, Inc. Send coupon for details.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

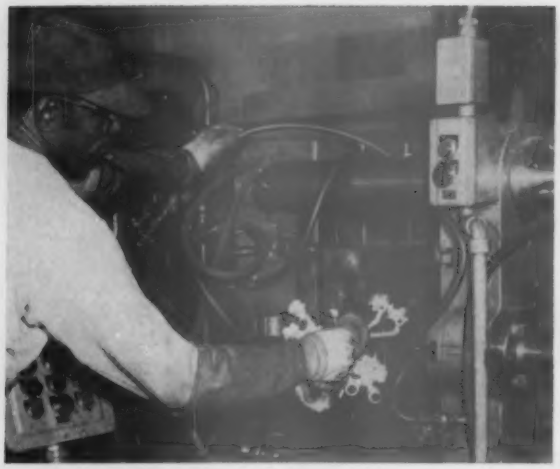
Distributors in all principal cities

ROCKWOOD SPRINKLER COMPANY
Portable Fire Protection Division
1271 Harlow Street
Worcester 5, Massachusetts

Please send me details on Balanced Pressure Proportioning System and Double-Strength FOAM liquid.

Name .....
Title .....
Company .....
Street .....
City .....*Zone*....*State*.....

Circle Item No. 33—Reader Service Card



THIS WELTER of hose illustrates the need for a fire-resistant hydraulic fluid should a line rupture occur.

BRIGHT YELLOW fire-resistant hydraulic fluid is easily spotted, reducing maintenance and make-up losses.

more than 95 gals. of the system's 165-gal. capacity had drenched the 2,000-ft. production area with the fine air-oil mixture.

Since the cylinder was directly over the zinc pot, the initial discharge sprayed right into the 1,000 F molten metal. Fluid dripped from the roof into the pot, onto the machinery and the floor. But there was no fire.

Had the system been charged with a conventional mineral oil, we would undoubtedly have had a fire or an explosion. Mineral oil is a fine hydraulic medium, but under pressure its normally placid character changes to that of a bomb. It certainly would have hit that pot of molten zinc under full pressure.

But nothing happened. On hitting the molten metal, the water content of the fluid changed to steam. There was no residual burning of the petroleum oils in the fluid. All we had to do was to get the cylinder rod repaired, clean up the area and put the machine back to work.

Since that time we have had a chance to test the fluid under continuous operation. Lubricity and performance have been equal to any hydraulic oil or fluid. Its bright yellow color has enabled us to spot leaks quickly, reducing maintenance and make-up losses to a minimum.

Gardening: Man's effort to improve his lot.

Issue Report on Alligator Shears

A special safety report on alligator shears used in scrap processing yards has been issued by the Institute of Scrap Iron & Steel Inc.

Prepared by the Institute's subcommittee on safety under the chairmanship of Fred Gordon, Iroquois Steel & Iron Company, Chicago, the report is based on a questionnaire sent to members of the Institute during the latter part of 1958.

Emphasis by some state safety officials that guards be placed on alligator shears at the point of operation led the Institute to make its survey to determine just how many injuries occurred at the shear blades and how many were caused by other factors.

Point of operation guards for alligator shears have been used in many industries where the run of material through the shear has been uniform. In the scrap industry, they have also been used when uniform scrap, such as rail, has been cut.

However, because material handled in a scrap processing yard varies widely insofar as shape, size, and consistency are concerned, point of operation guards have proved to be hazardous in those yards using them. Processors found through experience that the best safety measure was to make sure that shear operators were well trained. As a result of this knowledge and training, accidents at the point of operation in scrap processing yards have been relatively small.

The Institute's special safety report states that "contrary to general opinion, the survey indicates that the point of operation on an alligator shear is responsible for relatively few of the total injuries occurring on this machine in the iron and steel scrap processing industry."

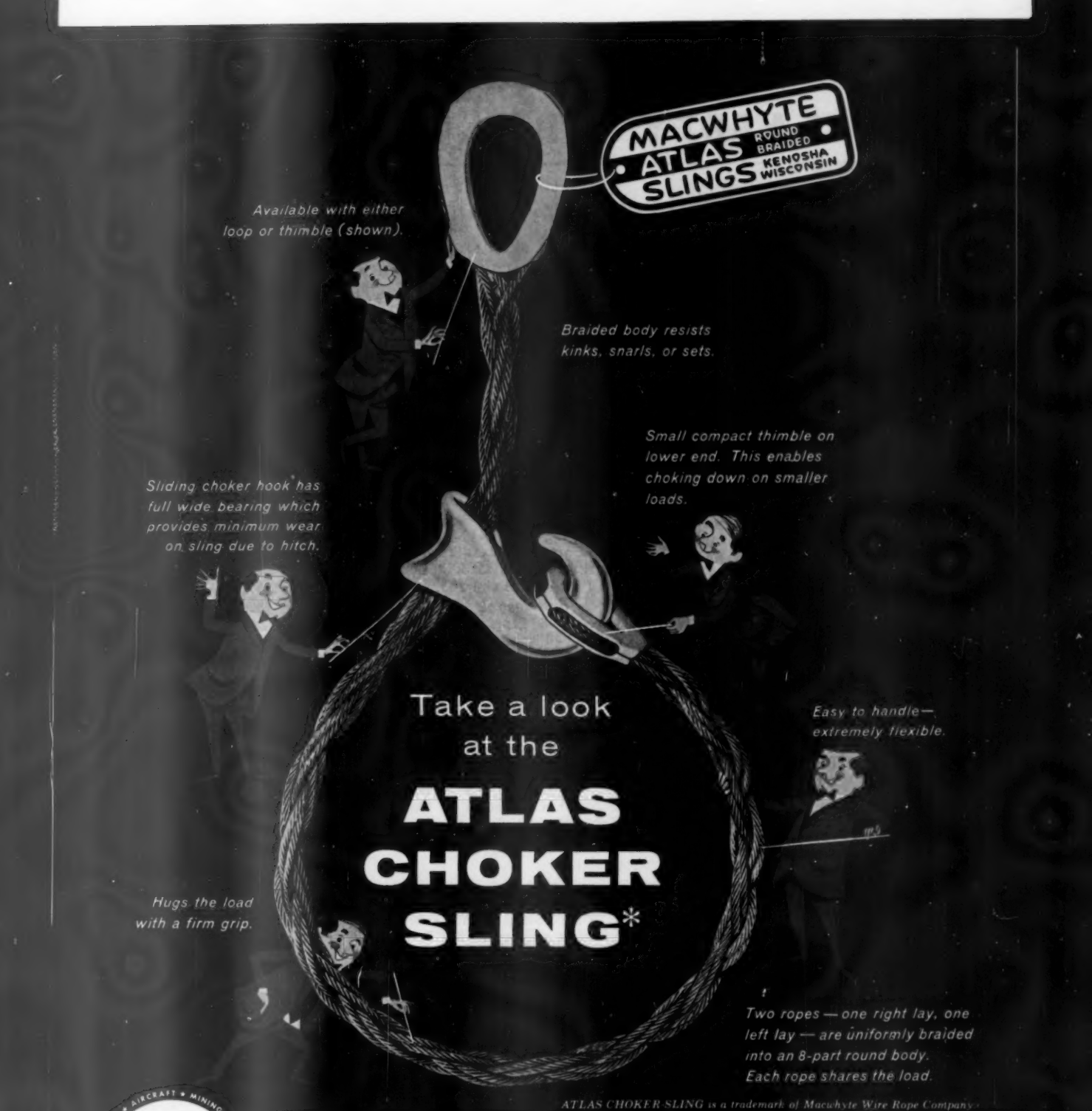
Indicative of the wide interest in the question of alligator shears and their safety, returns on the questionnaire came from 238 scrap processors throughout the country, operating 570 alligator shears. This represented between 25 and 30 per cent of the firms queried.

Of the 348 accidents reported on alligator shears over a 2-year period, 11 cases resulted in amputations ranging from tips of fingers to thumbs, and one case resulted in the loss of two fingers. The great majority of the injuries were minor cuts, scratches, and bruises, resulting in no lost time. In nearly all the amputation cases, the operators were cleaning small objects such as valves, without the use of tongs or other holding devices.

The injury frequency rate for the alligator shear operation, as determined in accordance with the cording and Measuring Work Injury Experience, is approximately

—To page 141

Circle Item No. 34—Reader Service Card ⟶


MACWHYTE
ATLAS
SLINGS
ROUND
BRAIDED
KENOSHA
WISCONSIN
Available with either loop or thimble (shown).
Braided body resists kinks, snarls, or sets.
Small compact thimble on lower end. This enables choking down on smaller loads.
Sliding choker hook has full wide bearing which provides minimum wear on sling due to hitch.
Take a look at the
ATLAS CHOKER SLING*
Easy to handle—extremely flexible.
Hugs the load with a firm grip.
Two ropes — one right lay, one left lay — are uniformly braided into an 8-part round body. Each rope shares the load.

ATLAS CHOKER SLING is a trademark of Macwhyte Wire Rope Company

Macwhyte Atlas braided slings are readily available in a variety of standard types and assemblies. If you have a *special* load-handling requirement, we will furnish Atlas Slings to your design ... or Macwhyte engineers will gladly give you their design recommendation. There's a Macwhyte representative close by. Ask for your free copy of sling circulars 5308R and 5886.

158

MACWHYTE Wire Rope

2900 FOURTEENTH AVENUE • KENOSHA, WISCONSIN

Manufacturers of wire rope, slings, and cable assemblies. Distributed and stocked throughout the United States

THE SAFETY LIBRARY

Reviews of books, pamphlets and periodical articles of interest to safety men

By LOIS ZEARING, Assistant Librarian, NSC

What Every Supervisor Should Know

What Every Supervisor Should Know. By Lester R. Bittel. McGraw-Hill Book Company, New York. 451 pp. $7.95.

THE TEXT discusses the art of supervision in a down-to-earth manner that any supervisor can read to find answers to many of his problems.

These may be in production, labor relations, accident prevention, communications, or in the art of getting along with people. The solutions offered are not necessarily based on trends or new concepts, but rather on long experience with the success or failure of supervisory principles. The book is filled with good practical examples and applications.

The chapter on "Attitudes and Morale" concerns problems of persons who are different—people with good and bad attitudes. The author explains what can be done to prevent the development of unfavorable attitudes and how to control established attitudes.

Since employee attitudes are so important to all supervision, this chapter is extremely helpful. There are several good tables that can be useful as yardsticks to measure the attitudes of workers toward the company and the supervisor.

There is also a good chapter on "Getting Along With Your Boss" that has some helpful suggestions on such subjects as "How do you go about asking your boss for a raise?" and "What can you do to get your boss to agree with your ideas?"

The book also contains a section on visual aids that can be used as supplemental material. This, together with a selected bibliography for further reading, makes this text a flexible tool for self-improvement or group instruction.

L. C. SMITH

BOOKS AND PAMPHLETS

Supervisors

National Supervisory Opinion Survey on What Supervisors Think About Problems Ahead. (1959). 23pp. Management Information, 30 N. MacQuesten Parkway, Mt. Vernon, N. Y.

Fire Protection

Crash Rescue and Fire Fighting Information. 1959. 21pp. McDonnell Aircraft Corp., Lambert-St. Louis Municipal Airport, Box 516, St. Louis 66, Mo. (For F-101B aircraft).

Water in Fire Control. Mathew M. Braidech. 1959. 15pp. International Association of Fire Chiefs, 232 Madison Ave., New York 16. (Reprint from *Journal of the American Water Works Association,* October 1958).

Health Hazards

Occupational Health Hazards, Their Evaluation and Control. 1958. 36pp. Superintendent of Documents, Washington 25, D. C. (Bureau of Labor Standards Bulletin 198) 25¢.

Laboratories

Hot Laboratory Equipment. Second Edition. Brookhaven National Laboratory, United States Atomic Energy Commission. Superintendent of Documents, Washington 25, D. C. $2.50.

Hoists

Automotive Lifts. Office of Technical Services, Commodity Standards Division. Third edition. 1958. 21pp. Superintendent of Documents, Washington 25, D. C. (Commercial Standard CS142-58) 15¢.

Electricity

Handbook of Electric Blasting. David M. McFarland and Guy F. Rolland. 1959. 60pp. Atlas Powder Co., Wilmington 99, Del.

Television and Radio Transmitting Towers. 1959. Association of Casualty and Surety Companies, Sixty John Street, New York 38, N. Y. (Special Hazards Bulletin Z-111 Vol. XII-1959. pp. 1-13).

Mining

Methods and Practices for Producing Crushed Granite. Weston-Brooker Co., Warren County, Ga. 1959. 25pp. Publications Distribution Section, U.S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Information Circular 7874) Free.

Communication of Flame Through Cylindrical Channels. 1959. 22pp. Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Report of Investigations 5457) Free.

Recent Development in Spark Ignition. 1959. 10pp. Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Report of Investigation 5461). Free.

Reconnaissance of Nevada Manganese Deposits. 1959. 40pp. Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Report of Investigation 5446) Free.

MAGAZINE ARTICLES

Accidents

"Fatal Accidents Among Men at Working Ages." *Statistical Bulletin.* January. 1959. pp. 8-10.

Chemicals

"Safe Disposal of Radioactive Waste." Albert L. Smith. *Industrial Wastes.* March, 1959. pp. 23-25.

"Safe Handling of Anhydrous and Aqueous Ammonia Fertilizers." G. E. Lambert. *Safer Oregon.* January-February, 1959. pp. 4-5, 9-10.

"Safe Use and Safe Handling of Organic Isocyanates." S. C. Strayer. *AMA Archives of Industrial Health.* pp. 351-353.

"Specific Fungicides." J. D. Wilson. *Farm Chemicals.* February. 1959. pp. 28-29.

Communication

"Effective Safety Communications." A. B. Pettit. *Industrial and Engineering Chemistry,* March 1959. Part 1. pp. 81A-82A.

Economics

"Your Dollars-and-Cents Stake in Safety." *The Management Review.* March, 1959. pp. 48-50.

Electricity

"Keep a Safe Distance and Avoid Danger of Shock from 'Live' Circuits." *Refrigeration Service and Contracting.* February. 1959. pp. 33-34.

Fire Protection

"New Crash Rescue Truck." *Firemen.* March. 1959. p. 17.

HOT DOG!

Cool Summer Safety Shoes by Thom McAn

Cool feet can often make the difference when summer heat begins to melt men's output. Thom McAn has a complete line of men's summer safety shoes.

Above are two of our most popular styles. Left: style 4358 Embossed Vent with leather sole and Neoprene heel, sizes C 7-12, D-E 6-12. Right: style 4359 Woven Blucher with Nitro-crepe sole and heel, sizes B 8-12, C 7-12, D-E-EE 6-12.

Both give your men maximum coolness. They're ventilated for direct air flow to the foot. They've got leather-lined steel toes and steel shank for protection. Soft leather throughout. And, of course, good looks. Shoes your men can wear for play—as well as work.

For more information about Thom McAn Summer Safety Shoes, send us this coupon. We'll send you all the facts, fast!

Thom McAn Safety Shoe Division, 25 W. 43 St., N.Y. 36

Gentlemen: Please send me the following at once:
(Check service required)

- ☐ Details of Thom McAn's Special In-Plant Fitting Plan
- ☐ Fully illustrated list of Thom McAn Safety Shoes
- ☐ Set of safety posters
- ☐ Address of nearest Thom McAn Safety Shoe Store

Name_____

Position_____

Firm_____

Address_____

City_____ Zone____ State_____

N

Thom McAn **SAFETY SHOES**

A Division of Melville Shoe Corporation

Circle Item No. 35—Reader Service Card

"Recommended Fire Protection for Steam Turbines and Turbine Room Basements." *Sentinel*. February. 1959. p. 3.

Health Hazards

"Clinical Control of Health in the Storage Battery Industry." Elston L. Belknap and Elston L. Belknap, Jr. *Industrial Medicine and Surgery*. March. 1959. pp. 94-99.

"Health Aspects of Production and Marketing of Chemicals." C. Boyd Shaffer. *AMA Archives of Industrial Health*. March. 1959. pp. 298-301.

"Health Control in the Ceramic Industry." Russell W. Frank. *Industrial Medicine and Surgery*. March. 1959. pp. 102-105.

"Hygiene of Welding in U. S. Naval Shipyards." Ernani D. Storlazzi. *AMA Archives of Industrial Health*. March. 1959. pp. 307-311.

"Nitroglycerin and Nitroglycol Exposure in an Explosive Plant." H. T. Yee and others. *American Industrial Hygiene Association Journal*. February. 1959. pp. 45-49.

"Occupational Anthrax in the United States." Charles E. Kendall. *Journal of Occupational Medicine*. March. 1959. pp. 174-177.

"Prevention and Control of Occupational Dermatoses." *Journal of the American Medical Association*. March 21, 1959. pp. 1340-1344.

Human Factors

"Your Emotions Can Be Contagious." R. B. O'Connor. *Supervisory Management*. March. 1959. pp. 9-13.

Lighting

"Today's Plants Must Have More Lighting." H. E. Hollensbe. *The Plant*. March. 1959. pp. 25-32.

"Why Better Lighting Is a 'Must.'" J. L. Tugman and Don R. Phillips. *Factory*. March. 1959. pp. 73-75.

Maintenance

"Preventive Maintenance: the Stitch in Time." Joseph F. Morreale. *Supervisory Management*. March. 1959. pp. 14-19.

Marine Industry

"Intrapulmonary Air Trapping in Submarine Escape Training Casualties." Averill A. Lieow and others. *United States Armed Forces Medical Journal*. March. 1959. pp. 265-289.

Mining

"Faster Shaft Sinking with New Jumbo Safety Skip." *Mining Engineering*. February. 1959. pp. 186-187.

"Shaft Sinking by Raising Better Method Uses Suspended Cage." *Mining Engineering*. February. 1959. pp. 188-189.

Noise

"Hearing Losses: They *May* Cost You Money." Ellis B. Singer. *American Machinist*. February 23, 1959.

"Noise; A Growing Problem Demands Better Control." *Mechanical Contractors*. February. 1959. pp. 39-43.

Nurses

"The Legal Scope of Industrial Nursing Practice." *Journal of the American Medical Association*. March 7, 1959. pp. 1072-1075.

Printing and Publishing

"Safety Last?" *Modern Lithography*. February. 1959. p. 43.

Railroads

"Slides Teach Safety on Nickel Plate." *Modern Railroads*. March. 1959. pp. 109-110.

Selling Safety

"Getting the Dog Past the Jam." W. C. Bremner. *The Edison Electric Institute Bulletin*. February. 1959. pp. 57-61.

"Incentive Plan for Safety." L. J. Bibri. *Supervision*. March. 1959. p. 9.

* * *

ADDRESSES OF MAGAZINES MENTIONED

Readers are asked to send their requests for copies of magazine articles to the publishers. The NSC Library is unable to fill such orders.

AMA Archives of Industrial Health, 535 N. Dearborn St., Chicago 10.

American Industrial Hygiene Association Journal, 1014 Broadway, Cincinnati 2, Ohio.

American Machinist, 330 W. 42nd St., New York 36.

The Edison Electric Institute Bulletin, 750 Third Ave., New York 17.

Factory, 330 W. 42nd St., New York 36.

Industrial and Engineering Chemistry, 1155 Sixteenth St., N. W., Washington 6, D. C.

Industrial Medicine and Surgery, 400 S. W. 69th St., Miami, Fla.

Industrial Waste, 155 44th St., New York.

Journal of Occupational Medicine, 28 E. Jackson Blvd., Chicago 4.

Journal of the American Medical Association, 535 N. Dearborn, Chicago 10.

The Management Review, 1515 Broadway, New York 36.

Mechanical Contractor, Suite 570, 45 Rockefeller Plaza, New York 20.

Mining Engineering, 29 W. 39th St., New York 18.

Modern Lithography, P. O. Box 31, Caldwell, N. J.

Modern Railroads, 201 N. Wells St., Chicago 6.

The Plant, Plant Publishing Co., St. Joseph, Mich.

Refrigeration Service and Contracting, 433-435 N. Waller Ave., Chicago 44.

Safer Oregon, State Industrial Accident Commission, Public Service Bldg., Salem, Ore.

Sentinel, 85 Woodland St., Hartford 2, Conn.

Statistical Bulletin, Metropolitan Life Insurance Co., 1 Madison Ave., New York 10.

Supervisory Management, 1515 Broadway, New York 36.

U. S. Armed Forces Medical Journal, Superintendent of Documents, Washington 25, D. C.

BERT

Hands that forge the tools...

...that make the equipment...that safety men use ...to create a nation of the best-protected workingmen in the world. This is the Industrial Safety Equipment Association, Inc. Here ideas and techniques are exchanged to accelerate progress and to protect men's lives. Today—25 years after its founding—with the world on the threshold of the atomic age, the ISEA pledges itself again to keep pace with new equipment and ideas... to make lives more secure and work more safe.

25th anniversary ISEA

MEMBERS ISEA

Acme Protection Equipment Co.
Advance Glove Manufacturing Co.
American Allsafe Company, Inc.
American Industrial Safety Equip. Co., Inc.
American Optical Company
Arcadia Manufacturing Company
Bausch & Lomb Optical Company
The Boyer-Campbell Company
R. H. Buhrke Company
E. D. Bullard Company
Chicago Eye Shield Company
H. S. Cover
Davis Emergency Equipment Co., Inc.
Dickson Safety Products Company
Dockson Corporation
Fendall Company
The Fibre-Metal Products Company
General Scientific Equipment Co.
Glendale Optical Company, Inc.
Guardian Safety Equipment Co., Phila., Pa.
Guardian Safety Equipment Co., N. J.
Industrial Gloves Company
Johnson-Williams, Inc.
Junkin Safety Appliance Co., Inc.
Kimball Safety Products Co.
Medical Supply Company
Milburn Company
Miller Equipment Company, Inc.
Mine Safety Appliances Co.
The Pac-Kit Company
Pennsylvania Optical Company
Protective Equipment Inc.
Pulmosan Safety Equipment Corp.
Rose Manufacturing Company
Safety Clothing & Equipment Co.
Safety First Supply Company
Scott Aviation Corporation
Sellstrom Manufacturing Co.
Standard Safety Equipment Company
Stonehouse Signs, Inc.
United States Safety Service Company
Watchemoket Optical Co., Inc.
Welsh Manufacturing Company
Willson Products Division, Ray-O-Vac Co.

Medical Group Endorses Mouth-to-Mouth Resuscitation

MOUTH-TO-MOUTH resuscitation has been endorsed by the Division of Medical Sciences of the National Academy of Sciences, National Research Council, as the method for widespread use. The attitude of the Division and details of resuscitation techniques are contained in a memorandum, Statement on Emergency Artificial Respiration Without Adjunct Equipment, dated February 16, 1959.

The statement, it is pointed out in the introduction, does not consider the relative values of various types of adjunct equipment or details of techniques and teaching methods. It is concerned primarily with a situation in which there is urgent need to provide artificial respiration by the first person on the scene.

The statement reads:

The National Academy of Sciences-National Research Council Ad Hoc Committee on Artificial Respiration in its meeting of November 3, 1958 reviewed the data on artificial respiration obtained through research projects supported by the Department of the Army, the American National Red Cross, and others.

It was unanimously agreed by members of the Ad Hoc group that the mouth-to-mouth (or mouth-to-nose) technique of artificial respiration is the most practical method for emergency ventilation of an apneic individual, of any age, in the absence of equipment or of help from a second person, regardless of the cause of apnea. This method has the advantage of providing pressure to inflate the victim's lungs immediately and allowing the rescuer to gain some information on the pressure, volume, and duration of each blowing effort.

For adults a rate of about 12 breaths per minute, of twice the normal volume, was recommended, and for children, relatively shallow breaths, appropriate for their size, at a rate of about 20 per minute. For infants only shallow puffs should be used.

The most important single factor contributing to the rescuer's success by any method is the immediate introduction of air into the victim's lungs. This can be accomplished only through an open airway. Mouth-to-mouth artificial respiration should be started at the earliest possible moment.

The victim should be placed in a supine position, with his head tilted backwards and the lower jaw displaced forward. These two maneuvers relieve obstruction of the airway by the tongue by moving the tongue away from the back of the throat.

If obstructing foreign material is obviously present, such as food particles, secretions, false teeth, blood or blood clots, or chewing gum, it must be removed immediately with the fingers or by any other means possible. The first blowing effort will determine whether or not obstruction exists, and in the absence of obstruction will provide the urgently needed oxygen.

If aspiration of a foreign body is suspected in an adult after failure of mouth-to-mouth ventilation to move air into the lungs, the victim should be placed on his side and a sharp blow administered between the shoulders to jar the obstructing material free. Again, the rescuer's fingers should sweep through the victim's mouth to remove such material.

An asphyxiated small child suspected of having a foreign body in the airway should be suspended momentarily by the ankles, or inverted over one arm, and given two or three sharp pats between the shoulder blades in the hope of dislodging obstructing material.

Three Essentials

Three important points should be stressed in the teaching of mouth-to-mouth methods: (1) Tilt the head backward and displace the lower jaw forward to clear the airway; (2) prevent air leakage; (3) blow vigorously into adults, but gently into children.

To avoid over-distension, the

HOWARD PYLE, president of the National Safety Council (right) and Harold E. Fellows, president and chairman of the board, National Association of Broadcasters, look over the Stop Accidents display at the Advertising Council's exhibit at the NAB convention. The National Safety Council is the sponsor of the Stop Accidents campaign.

The special Advertising Council exhibit expressed thanks to broadcasters for another record year of public service and gave specific results of 17 major public service campaigns in 1958 in which broadcasters played a leading role.

Hillyard Super HIL-TONE® FLOOR DRESSING

SAFEGUARDS against FIRE HAZARDS

Safe on the Floor—Safe in the Mop—Safe in Storage

1 No possibility of spontaneous combustion—
SUPER HIL-TONE is chemically "non-oxidizable" — that is, it can't absorb oxygen when exposed to air, the common cause of heating and spontaneous combustion with widely used, dangerous oily floor dressings.

2 It's fire-retardant—
In official tests, using the "TAG" Closed-Cup Tester, SUPER HIL-TONE failed to show flash point at temperatures up to 175° F. In fact, SUPER HIL-TONE *discourages* fire. Ask the Hillyard Maintaineer to demonstrate this important property.

LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES, INC.

3 "Classified as to fire hazard"

Floor oils leave a 100% residue that penetrates to create a dangerous fire hazard. Super Hil-Tone is non-oily. — After sweeping only a 20% protective residue is left to condition and protect the surface — keeps finishes from drying out and becoming brittle. A Super Hil-Tone wear resistant film strengthens the finish and enhances it with a deep, lustrous sheen.

By unique AD-SORPTIVE action, holds dust on the floor surface for fast, efficient removal. Reduces the count of dust particles kicked up by passing feet. Sweeping goes fast and easy; frequent scrubbing is not necessary. It's the answer to your problem of cutting labor time in sweeping, without sacrifice of sanitation, appearance, or safety.

Ask the Hillyard "Maintaineer®" for expert advice on more effective floor maintenance. He's a trained floor care specialist. *"On Your Staff, Not Your Payroll"*

FLOOR HILLYARD TREATMENTS

ST. JOSEPH, MO.
U.S.A.
Passaic, N. J.
San Jose, Calif.

Branches and Warehouse Stocks in Principal Cities

MAIL COUPON—NOW!

HILLYARD St. Joseph, Mo. Dept. I-2

☐ Please send me free literature on Hillyard "Fire-safe" SUPER HIL-TONE sweeping.

☐ Please have the Hillyard MAINTAINEER demonstrate SUPER HIL-TONE sweeping on my floors. No charge or obligation.

Name.....

Institution.....

Address.....

City..... State.....

Circle Item No. 36—Reader Service Card

lungs should not be inflated beyond the point where the rescuer sees the victim's chest or abdomen expand.

Those rescuers who, for any reason, cannot or will not use the mouth-to-mouth technique, should use a manual method. The Committee believes that there are not sufficient data available to recommend any single manual method as the best for all circumstances.

Manual Methods

Of the several manual methods available, some are more effective than others under different circumstances, and they vary in the amount of fatiguing strain placed upon the operator. The rescuer should not be limited to the use of a single manual method for all cases, since the nature of the injuries in any given case may prevent the use of one method, while favoring another.

The *supine chest pressure-arm lift method* (Silvester), with an improvised support under the shoulders, provides a slightly increased tidal volume when compared to prone push-pull methods, but in the supine position there is danger of aspiration of vomitus, blood or blood clots. This hazard can be reduced by keeping the head extended and turned to one side. If possible the head should be a little lower than the trunk.

The *prone pressure, arm lift,* hands under the face method (Holger-Nielsen) also presents a hazard of airway obstruction unless great care is taken to keep the head extended. The claimed advantage of prone methods over the supine methods, of providing more efficient gravity drainage is minimal, and the prone method has the disadvantage, well recognized by anesthetists, of producing some restriction of breathing.

When manual methods are being used and a second rescuer becomes available, his efforts should be directed towards maintaining an open airway by holding the head and neck properly, maintaining forward displacement of the jaw and keeping the pharynx free of vomit or mucus.

Regardless of the method used, the preservation of an open airway is essential. This can best be done by assuring continued extension of the head and neck and forward displacement of the lower jaw. Some unconscious victims will be saved simply by the establishment of an open airway permitting spontaneous breathing.

Name Best Safety Films of 1958

Five nontheatrical motion pictures have been honored with bronze plaque awards by the National Committee on Films for Safety as the best safety films of 1958.

Eight motion pictures, two sound slidefilms and two TV spots (both produced by the Ohio Department of Highway Safety and honored jointly) were given Award of Merit certificates.

The safety films committee, which represents 23 national organizations, makes annual awards for films on home, traffic, occupational, and general safety.

John B. McCullough, director of technical services for the Motion Picture Association of America, is chairman of the committee, which seeks to improve the public's knowledge of safety through visual means.

Here are the 1958 award winners:

OCCUPATIONAL

Motion Picture

PLAQUE: *Your Richest Gift,* produced by Owens-Illinois Glass Co. for self.

CERTIFICATE: *The Case of the Cluttered Corner,* produced by Cal Dunn Studios for the National Safety Council.

CERTIFICATE: *We Lead the World,* produced by New Zealand National Film Unit for New Zealand Department of Information Services.

Sound Slidefilm

CERTIFICATE: *Respect,* produced by Phillips Petroleum Co. for self.

TRAFFIC & TRANSPORTATION

Motion Picture

PLAQUE: *The Broken Doll,* produced by Chetwynd Films, Ltd., for Canadian Department of the Attorney General.

PLAQUE: *Your School Safety Patrol,* produced by the Calvin Co. for AAA Foundation for Traffic Safety.

CERTIFICATE: *Give a Car a Man Who Can Drive,* produced by John Sutherland Productions for Richfield Oil Corp.

Sound Slidefilm

CERTIFICATE: *Seven-Tenths of a Second,* produced by American Telephone and Telegraph Co. for self.

GENERAL

Motion Picture

PLAQUE: *Lucky You,* produced by the Jam Handy Organization for Coca-Cola Co.

PLAQUE: *Teaching Johnny to Swim,* produced by Institute of Visual Training for American National Red Cross and Metropolitan Life Insurance Co.

CERTIFICATE: *Accidents Don't Just Happen,* produced by Creative Arts Studio for U. S. Public Health Service.

CERTIFICATE: *Boats, Motors and People,* produced by National Film Studios for Johnson Motors.

CERTIFICATE: *Charlie's Haunt,* produced by Jerry Fairbanks Productions for American Telephone and Telegraph Co.

CERTIFICATE: *Rescue Breathing,* produced by American Film Producers for Lewis and Marguerite S. Herman.

HOME

Motion Picture

CERTIFICATE: *Fire in Town,* produced by National Film Board of Canada for Canadian Department of Public Works.

TV SPOTS

CERTIFICATE: *80,000 Torn Tickets to Life,* and *Railroad Crossing Safety,* both produced by Ohio Department of Highway Safety for self.

ASSE Life Member

Charles A. Miller, chief safety engineer for The Texas Company, was presented with a certificate of life membership in the American Society of Safety Engineers at a luncheon meeting of the ASSE and Veterans of Safety at the recent 20th Annual Texas Safety Conference in Houston. Donald G. Vaughan, ASSE president (left) made the presentation.

DOW | **HERBICIDES**

GARLON . . . *knocks out weeds and nuisance grasses, costs less than mowing*

After simply mixing one part of Garlon* with thirty parts of water, this man will be ready to spray away all the weeds and excess grass on this parking lot. With equal ease, he can control unsightly vegetation in any part of the grounds—along fences, in ditches, around loading docks, outdoor storage areas, roads and railroad tracks.

For controlling unwanted vegetation, *Garlon is the one right product.* It's brand-new—and unique from the research labs of Dow. It contains a special combination of powerful herbicides that control both broad-leaved weeds and grasses. It is a systemic killer—destroys roots and all. Garlon is easy to use. It mixes readily with water (one part to thirty) and goes a long way. One pint of Garlon will effectively treat 1000 square feet. Inexperienced maintenance men can apply Garlon with a simple hand sprayer and get professional quality results.

Some plants are still using mowers and man-hours to keep vegetation under control. But that's more expensive and less satisfactory than spraying with Garlon. Cost figures show that savings are substantial when you switch from mowing to spraying.

For more information on Garlon and modern chemical control of vegetation, fill in the coupon and send it to THE DOW CHEMICAL COMPANY, Midland, Michigan, Agricultural Chemical Sales Dept. 209CX-5.

*TRADEMARK OF THE DOW CHEMICAL COMPANY

The Dow Chemical Company
Agricultural Chemical Sales Dept. 209CX-5
Midland, Michigan

☐ Please send me additional information about Garlon.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ STATE_____

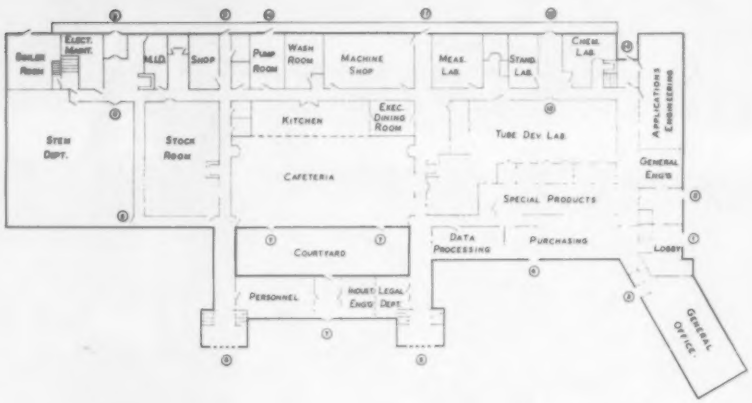
THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

Circle Item No. 37—Reader Service Card

SIGNS with bright red arrows guide employees to evacuation exits. The author is instructing a monitor in her duties.

IDENTIFICATION badges are worn by members of the evacuation detail and fire brigade.

FLOOR PLANS showing major departments and exits are located strategically throughout the plant. Exits are numbered on this plan.



All Out In Three Minutes

The bomb threat turned out to be a dud but emergency training proved its value

RECENTLY the switchboard of CBS-Hytron's headquarters in Danvers, Mass., received an anonymous tip-off of an impending bombing of its electronic manufacturing facilities. Within three minutes, 1,500 workers were evacuated from the plant in orderly fashion.

The five sticks of dynamite scheduled to go-off at 3 p.m. failed to detonate, or even materialize. Nevertheless, the bomb scare made headlines in local and Boston papers and was reported by Boston radio and TV. As a consequence, CBS-Hytron's safety director received numerous requests for details concerning the evacuation procedure.

This proven plan makes use of visual aids and frequent practice drills.

Floor layout plans, showing major departments and exits, are strategically located throughout the plant. Unimportant details and extraneous information are intentionally omitted from these plans.

Large printed signs utilize bright red arrows to guide employees to the proper evacuation exit. These signs are 12 in. high by 30 in. in length, with black lettering. The arrow is cut from reflective sheeting supplied by Minnesota Mining & Manufacturing Company.

Personnel. Heart of the system is a corps of well-trained monitors, with at least two employees selected from each department to serve on the evacuation detail. When chosen, the monitor receives this notification:

"You have been selected to serve on the Plant Evacuation Detail. Your appointment has the approval of your supervisors. You will receive an assignment card showing your exact duties, either as an usher or as a messenger. In general your duties will be as follows . . . "

These general instructions direct the usher to go to his assigned exit, open the door and lock it open. He must see to it that employees leave the building in an orderly manner, and he must prevent them from re-entering until the all-clear sounds.

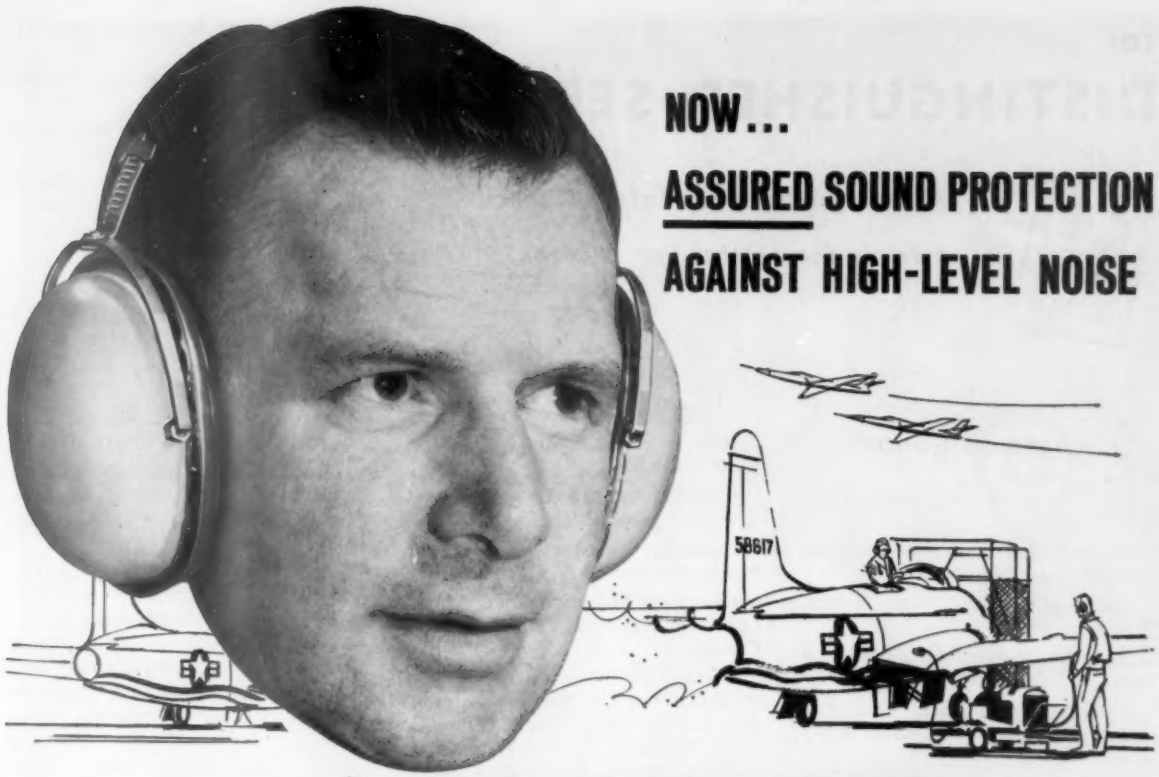
Messengers are directed to notify the person to whom they have been assigned that the alarm has sounded. This is important to insure swift coverage of areas not reached by the public address system.

During evacuation, ushers and messengers wear badges for easy identification.

—To page 163

By EDWARD J. SIWACKI

Chairman, Safety Committee, CBS-Hytron, Danvers, Mass.



NOW...

ASSURED SOUND PROTECTION

AGAINST HIGH-LEVEL NOISE

new improved 258 **WILLSON®**

SOUND BARRIER

ear-muff type sound protector

Aircraft may or may not be your business. But whatever your industry, if its operations produce high-level noise, then *hearing protection* is your business.

Continuous employee exposure to high-frequency sounds can often result in serious hearing impairment or deafness—at least lost-time accidents, poor morale, inefficiency. As a completely effective, *sure answer* to this problem, the Willson Research Center has now developed an entirely new concept in sound protection—the 258 SOUND BARRIER featuring *fluid-filled cushions* that offer better noise attenuation than cushions of any other material.

It is scientifically designed to properly baffle harmful high-frequency noises, *even when accompanied by extreme vibration.* Yet it lets the wearer hear spoken instructions and enjoy a new standard of hearing-protector *comfort!*

The SOUND BARRIER has been exhaustively tested as your assurance of the finest in personal noise protection. But don't just take our word for it . . . find out *for sure,* yourself . . . let your nearby Willson distributor demonstrate the SOUND BARRIER right on *your* jobs. Write today for his name.

APPROVED WILLSON® RESEARCH CENTER

fluid-filled cushions assure noiseproof fit

Fluid-filled vinyl cushions, a SOUND BARRIER *exclusive feature,* provide a noiseproof *contoured seal* around the ears, fit snugly, comfortably without undue pressure of headframe. Easily removable for cleaning and sterilizing . . . unaffected by temperature and pressure extremes . . . tested at −35°F and at 40,000 feet simulated altitude. Thermo-setting cups with polyurethane sponges inside further attenuate sound waves. Adjustable, lightweight headframe and swivel yokes combine with fluid-filled cushions to provide the perfect combination for *tight noise seal, superior comfort.*

(Available with earphones, or microphone with earphones for attachment to communications systems.)

WILLSON®

Products Division, Ray-O-Vac Company
205 Washington Street, Reading, Pa.

Circle Item No. 38—Reader Service Card

for DISTINGUISHED SERVICE

Winners of National Safety Council Awards for outstanding records

AWARD OF HONOR

ACF Industries Inc., Albuquerque, N. M.

Aeroquip Corp., Aircraft Couplings & Fittings, Jackson, Mich.

American Airlines, Inc., Ground Personnel.

American Chrome Co., Mining & Milling Chrome Ore, Nye, Mont.

American Cyanamid Co., two awards: Latrobe, Pa., Plant; Piney River, Va., Plant.

American Factors, Ltd., two awards: Hawaiian Canneries Co., Ltd., Kapaa, Kauai, T. H.; Oahu Sugar Co., Ltd., Waipahu, T. H.

American Radiator & Standard Sanitary Corp., San Pablo, Calif.

American Sugar Refining Co., two awards: Boston, Mass.; Franklin Sugar Refinery, Philadelphia, Pa.

Anaconda Wire & Cable Co., Sycamore, Ill.

Anchor Hocking Glass Corp., Plant 6, Salem, N. J.

Arabian American Oil Co., Ras Tanura District, Saudi Arabia.

Armco Steel Corp., two awards: National Supply Co., Torrance, Calif., Plant; Sheffield Div., Houston, Texas, Works.

ASR Products Corp., Kingsbury Div., La Porte, Ind.

Baldwin-Hill Co., Trenton, N. J., Plant.

Beacon Manufacturing Co., Swannanoa, N. C.

Scintilla Div., Bendix Aviation Corp., Sidney, N. Y.

Bestwall Gypsum Co., Sugurd, Utah.

Blaw Knox Co., Foundry & Mill Machinery Div., E. Chicago, Ind.

Bowman Dairy Co., Indiana Delivery.

C. Brewer & Co., Ltd., Onomea Sugar Co., Hilo, Hawaii.

Buckeye Steel Castings Co., Columbus, Ohio.

Canadian Arsenals, Ltd., Explosives Div., Valleyfield, P. Q., Canada.

Canadian Industries, Ltd., York Works, Toronto, Ont., Canada.

Canadian Malartic Gold Mines, Ltd., Underground Malartic, Que., Canada.

Carrier Corp., four awards: Bryant Manufacturing Co., Indianapolis, Ind.; Day & Night Mfg. Co., La Puente, Calif.; Syracuse, N. Y.; West Coast Divisions Hdqtrs., La Puente, Calif.

Celotex Corp., Fiber Insulation Board, Marrero, La.

Chemstrand Corp., two awards: Corp. Research Labs, Decatur, Ala.; Mfg. Nylon Yarn, Pensacola, Fla.

FOUR TYPES OF AWARDS are given by the National Safety Council to members in recognition of outstanding achievement in accident prevention.

1. Award of Honor
Available to (a) units which complete 3,000,000 man-hours without a disabling injury, and (b) units whose records, though not perfect, meet exacting standards. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency and severity rates.

2. Award of Merit
Has similar but less exacting requirements. Minimum number of man-hours is 1,000,000.

3. Certificate of Commendation
For injury-free records covering one or more calendar years and totaling 200,000 to 1,000,000 man-hours.

4. President's Letter
For injury-free records covering one or more calendar years and totaling less than 200,000 man-hours.

Details of eligibility requirements may be obtained by writing to Statistics Division, National Safety Council.

Citizens Gas & Coke Utility, Indianapolis, Ind.

City of Austin, Municipal Government, Austin, Texas.

Continental Can Co., Inc., Hazel Atlas Glass Div., Washington, Pa.

Coronet Phosphate Co., Div., Smith Douglass Co., Inc., Plant City, Fla.

The Crossett Co., Crossett, Ark.

Theo H. Davies, Laupohoehoe Sugar Co., Papaaloa, Hawaii.

Demerara Bauxite Co., Ltd., British Guiana, S. A.

W. J. Dickey & Sons, Inc., Cella Baltimore Co., Md.

Dominion Tar & Chemical Co., Ltd., Siporex, Ltd., Delson, P. Q., Canada.

Dow Chemical Co., three awards: Ludington, Mich., Div.; Midland, Mich.; Rocky Flats Plant, Denver, Colo.

Du Pont Company of Canada, Ltd., Kingston, Ont., Works.

E. I. du Pont de Nemours & Co., 35 awards: Baltimore, Md., Plant; Benger Laboratory, Waynesboro, Va.; Chambers Construction; Chambers Orchem. Works, Wilmington; Chattanooga, Tenn., Plant; Chemical Dept., Minquadale, Del.; Doyle Works, Leominster, Mass.; Eastern Lab., Gibbstown, N. J.; Engr. Research Lab. Wilmington; Elastomers Lab., Wilmington; Philadelphia Grasselli Plant; Grasselli Research Lab., Del.; Grasselli Works, Grasselli, N. J.; Hotel Du Pont; Houston Works, El Porte, Texas; Jackson Lab.; Kinston, N. C., Plant; Louisville, Ky., Works; Martinsville, Va., Plant; Mech. Development Lab., Wilmington; Newark, N. J., Plant; Newburgh, N. Y., Plant; Niagara Falls, N. Y., Plant; Old Hickory Rayon Plt., Old Hickory, Tenn.; Parlin, N. J., Finishes Plt.; Philadelphia Finishes Plant; Savannah River Constr., Del.; Savannah River Plant, S. C.; Spruance Cellophane Plant, Richmond, Va.; Tech. Lab.; Washington Construction, W. Va.; Waynesboro, Va., Plant; Office Buildings Div.; Wilmington, Del., Plant; Yerkes Plant, Buffalo, N. Y.

Duquesne Light Co., Pittsburgh, Pa.

East Bay Municipal Utility District, Oakland, Calif.

Eastman Chemical Prod., Inc., Kingsport, Tenn.

East Ohio Gas Co., Cleveland, Ohio.

Ethyl Corp., Baton Rouge, La.

H. K. Ferguson Co. Projects, United States & Can., Cleveland, Ohio.

Fibreboard Paper Products Corp.,

—To page 116

Slings give big forging a smooth ride

Even with a big one like this, you can rely on Bethlehem slings to do the job. It's a 56-ton die cushion cylinder for a hydraulic press—a tricky handling job in every way. But by using Bethlehem 8-part braided slings with loop ends, the big cylinder was moved in the shop as easily as a sack of sugar.

Bethlehem slings are ideal for moving just about every type of lift because of their flexibility, and load-hugging characteristics. They are strong and durable, and are carefully braided to attain proper balance, and resistance to spinning.

Bethlehem slings come in such a wide variety that you're sure to find exactly what you need. What's more, if you should have an unusual application which calls for something special, Bethlehem technicians are at your service, ready to go to work on the design. Why not call the nearest Bethlehem sales office about your requirements?

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL

Circle Item No. 39—Reader Service Card

Now It's Safer To Load Tank Cars

TANK CAR loading and unloading is made easier and safer by this rotating platform. Because the siding is on a high embankment it was necessary to build a deck at track level to accommodate the column and rotating stairway and platform.

RIGHT: When not in use, the platform is returned to the parking position parallel to the track.

HANDLING bulk fluids in tank cars and trucks involves some safety problems. One of them is to keep workmen off the sloping sides of the tank during loading and unloading.

Bottom unloading is not generally practiced because of the possibility of valve leakage, a potential hazard where flammable or toxic liquids are handled.

An answer to this problem is a safety platform that rotates from its parked position parallel to the track, swinging out over the body of the car and tangent to the dome. The platform installation must be adaptable to tank car variations, foundation situations, and clearance limitations.

Difficult terrain situations sometimes make erection of a fixed platform quite difficult. This can be overcome by a hydraulic raising and lowering mechanism which places the deck in proper relationship with the dome, and a retractable and extendable section, lever operated, may be provided to bridge the gap between the work deck and crow's nest when these appurtenances are handled.

How one difficult situation was handled is shown in the accompanying illustrations. At the Mogadore, Ohio, Chemical Division of the General Tire and Rubber Company it was necessary to handle cars on a high embankment. The company installed a stationary deck with grating floor at the track level with a fixed stairway leading to it. This was integrated with the column, rotating stairway and platform furnished by The Nichols Engineering Company, Chicago. The platform when not in use swings back to the parked position.

Maintenance is limited to occasional lubrication of two grease fittings and scheduled painting.

Precautions in Unpacking

Unpacking barrels, boxes and crates is a job that might be assigned to almost anybody at the shop—and at home, too. Ordinarily, it isn't a particularly hazardous job but large, heavy packages and those containing hazardous substances require special precautions.

Nails and splinters should be removed at the start. Gloves provide desirable protection. Goggles and safety shoes are also recommended for general shop wear.

For steel strapping, workers need training in application and removal. Equipment available from suppliers should be used.

Chemicals may require special protective clothing. Remove all debris and empty containers at once.

SAFETY INSURANCE

Biltrite Safety Soles protect against more hazards . . . more comfortably. They are lighter, tougher . . . specially compounded for both safety and durability.

BILTRITE SAF-T-STEP NEOPRENE CORK SOLES

- The one Neoprene Cork Sole that does not compromise wear for weight
- Resist oil, grease, chemicals and acids

BILTRITE NYLON CORD NEOPRENE SOLES

- Rugged — greater abrasion resistance
- Added resistance to oil, grease, acids and chemicals

BILTRITE SUPER-LITE CORK SOLES

- Resist abrasion from gravel, metal filings, etc.
- Lightweight resilient . . . insulate against heat, cold and shock

BILTRITE SURESTEP NEOPRENE SOLES

- Resist oil, grease, chemicals, acids
- Extra rugged for long-wearing service

BILTRITE HEELS AND SOLES

AMERICAN BILTRITE RUBBER COMPANY
CHELSEA 50. MASS

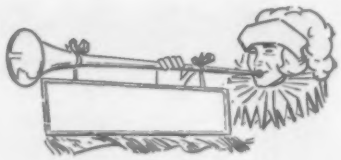
BILTRITE TRU-GLIDE NEOPRENE SOLES

- Provide extra traction and gliding comfort
- Resist oil, grease, acids and chemicals

Warehouses: 4464 District Boulevard, Los Angeles — 1010 Gratiot Street, St. Louis In Canada: American Biltrite Rubber Co. (Canada) Ltd., Sherbrooke, Que.

FROM THE WORLD'S LARGEST PRODUCER OF SHOE SOLING MATERIALS

Circle Item No. 40—Reader Service Card



SAFETY CHAMPIONS OF 1958

Winners of first-place plaques in National Safety Council's sectional contests

A FREQUENCY RATE of 7.17 disabling injuries per million man-hours worked was reported for 1958 by 5,224 entrants in 19 industrial groups in which contests were held.

The combined frequency rates for winners of National Safety Council plaques was 1.60—approximately 22 per cent of the average rate for all contestants. For 1957 the frequency rate for 4,341 entrants was 5.82. Among winners of plaques the combined frequency rate was 1.05.

The companies listed below will receive first-place plaques according to the rules of the contest in their own industry.

In the Barge and Towing Vessel, Chemical, Fertilizer, Hospital, Petroleum, Printing and Publishing, Textile, Commercial Vehicle, Glass and Ceramic, and Textile Contests, first-place plaques are awarded only to the unit operating the largest number of man-hours in cases where several contestants have perfect records. In other contests, all companies with perfect records receive duplicate first-place plaques.

In addition to the contests listed here, competitions are also conducted by the Metals Section; the Meat-Packing, Tanning, and Leather Products Section; and for Steel Fabricators on a fiscal year basis.

Complete lists of winners, including those in second and third place, and companies receiving certificates of merit for perfect records, appear in the contest bulletins which are being sent to all participating companies and plants. Each bulletin also contains a brief analysis of the industry's experience.

HOSPITAL CONTEST

The Hospital Section Safety Contest was sponsored jointly by the American Hospital Association and the National Safety Council. In addition to plaques for first, second, and third place, a grand award was won by Roanoke Memorial Hospital, Roanoke, Va.

First place plaques went to:

Group 1—Rest Haven Rehabilitation Hospital, Chicago.

Group 2—Orthodox Jewish Home for the Aged, Chicago.

Group 3—St. Mary's General Hospital, Lewiston, Maine.

Group 4—The Alexandria Hospital, Alexandria, Va.

Group 5—Veterans Administration Hospital—5080, Fort Lyon, Colo.

Group 6—St. Luke's Hospital, New Bedford, Mass.

Group 7—Veterans Administration Hospital, Salisbury, N. C.

Group 8—Valley Forge Army Hospital, Phoenixville, Pa.

AERONAUTICAL INDUSTRIES

COMPLETE AIRCRAFT MFG.

Convair, A Div. of General Dynamics Corp., Pomona Div.

AIRCRAFT PARTS MFG.

Group A—Ryan Aeronautical Co.

Group B—Atomics International, A Div. of North American Aviation Inc., Canoga Park, Calif.

BAKERY INDUSTRY

Group A—Interstate Bakeries Corp., Weber Baking Co. Div., Plant 23, Los Angeles.

American Bakeries Co., Cleveland, Ohio, Plant.

Group B—Interstate Bakeries Corp., Schulze Baking Div., Plant 2, Chicago.

Continental Baking Co., San Diego, Calif.

American Bakeries Co., Knoxville, Tenn., Plant.

Continental Baking Co., Hostess Cake Bakery, St. Louis, Mo.

Continental Baking Co., Salt Lake City, Utah.

American Bakeries Co., Columbus, Ohio, Plant.

National Biscuit Co., Rochester, N. Y.

American Bakeries Co., Detroit, Mich., Plant 1.

Group C—The Claussen Baking Co., Charleston, S. C.

American Bakeries Co., Decatur, Ill., Plant.

Interstate Bakeries Corp., Weber Baking Div., Plant 31, El Centro, Calif.

American Bakeries Co., Springfield, Mo., Plant.

Rainbo Bakers, Inc., Pueblo, Colo.

Southern Bakeries Co., Winchester, Va.

Southern Bakeries Co., Charlottesville, Va.

Rainbo Bakers, Inc., Colorado Springs.

Prosser Baking Co., Ventura, Calif.

Purity Baking Co., Pana, Ill.

Group D—Schalfke's Quality Bakery, Wabeno, Wis.

Purity Baking Co., Bloomington, Ill.

Smith's Bakery, Inc., Laurel, Miss.

Capital Bakers, Inc., Wilmington, Del.

Capital Bakers, Inc., Plant 12, Carlisle, Pa.

BARGE AND TOWING VESSEL

Group A—United States Steel Corp., River Transportation Dept., Clairton, Pa.

Group B—Greenville Transportation Co., Greenville, Miss.

CHEMICAL

DIVISION I

Group A—E. I. du Pont de Nemours & Co., Chattanooga Plant.

Group B—E. I. du Pont de Nemours & Co., Benger Laboratory.

Group C—E. I. du Pont de Nemours & Co., East Chicago Orchem Plant.

DIVISION II

Group A—Visking Co., Div. Union Carbide Corp., Chicago.

Group B—Continental-Diamond Corp., Newark, Del., Plant.

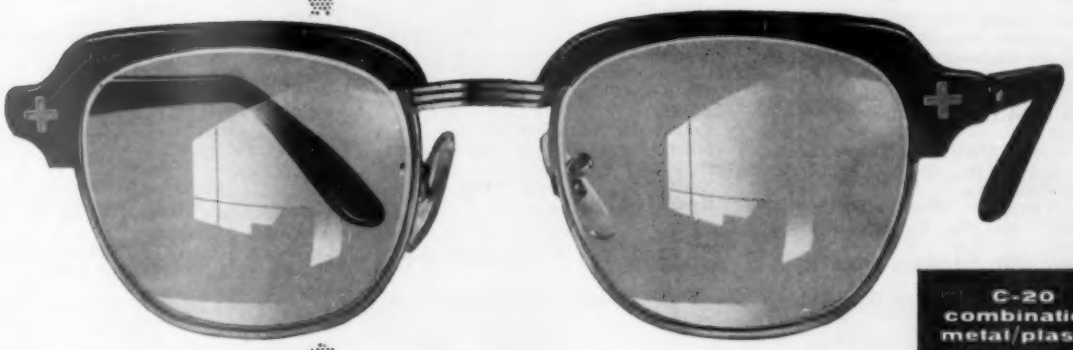
Group C—Consolidated Mining and Smelting Co. of Canada, Ltd., Alberta Nitrogen Dept.

DIVISION III

Group A—E. I. du Pont de Nemours & Co., Birmingham Works.

Workers go for functional good looks

This new Bausch & Lomb safety frame has got it...PLUS



C-20 combination metal/plastic

Newest concept in safety eyewear, designed by Bausch & Lomb to meet the needs of today and tomorrow. Smart, with superior fitting qualities and unequalled strength, C-20 represents the finest in scientific eye protection. Spatula or riding bow temples and Bausch & Lomb Redy-Fit side shields available for on-the-job interchangeability. See it now; call your supplier, or write for information:
Bausch & Lomb Optical Co., 90341 Smith Street,
Rochester 2, New York.

BAUSCH & LOMB

PROTECTION **PLUS**
Safety Eyewear

protection+economy+worker acceptance

Circle Item No. 41—Reader Service Card

Group B—E. I. du Pont de Nemours & Co., Yerkes Research Laboratory.
Group C—Detrex Chemical Industries, Inc.

COMMERCIAL VEHICLE

COMMON AND CONTRACT CARRIERS DIVISION
Group A—The Mason and Dixon Lines, Inc., Kingsport, Tenn.
Group B—F. J. Boutell Service Co., Detroit, Mich.

FERTILIZER

DIVISION I
Group A—Canadian Industries Limited, Chatham Works.
Group B—Federal Chemical Co., Louisville, Ky.
Group C—Canadian Industries Limited, Halifax Works.
DIVISION II
Group A—Canadian Industries Limited, Hamilton Works, Agricultural Chemicals Div.
Group B—Canadian Industries Limited, Beloeil Works, Agricultural Chemicals Div.
DIVISION III
Group A—Virginia Carolina Chemical Corp., Charleston, S. C.
Group B—Swift & Co., Agricultural Chemical Div., South Norfolk, Va.
DIVISION IV
American Cyanamid Co., Brewster, Fla.

FOOD

DIVISION I
Group A—Hercules Powder Co., Harbor Beach Plant.
Ralston Purina Co., Fort Worth, Tex., Branch.
Ralston Purina Co., St. Louis, Mo., Branch.
Group B—Ralston Purina Co., Nashville, Tenn., Branch.
The Pillsbury Co., Minneapolis.
Robin Hood Flour Mills Limited, Moose Jaw, Sask.
International Milling Co., Detroit, Mich.
General Mills, Inc., Special Commodities Div., Keokuk, Iowa.
General Mills, Inc., Flour Mill, Chicago.
Ralston Purina Co., St. Johnsbury, Vt., Branch.
General Mills, Inc., Flour Mill, Vallejo, Calif.
General Mills, Inc., Flour Mill, Wichita, Kan.
Carnation Co., Albers Milling Div., Portland, Ore.
Ralston Purina Co., Charlotte, N. C., Branch.
Ralston Purina Co., Jackson, Miss., Branch.
The Pillsbury Co., Astoria, Ore.
Group C—Robin Hood Flour Mills, Limited, Saskatoon, Sask.
Ralston Purina Co., Montreal, Que., Branch.
International Milling Co., Greenville, Tex.
General Mills, Inc., Flour and Feed Mill, Los Angeles.
International Milling Co., New Prague, Minn.
Ralston Purina Co., Gainesville, Ga., Branch.
Ralston Purina Co., Circleville, Ohio, Branch.
Ralston Purina Co., Tampa, Fla., Branch.
Ralston Purina Co., Omaha Branch.
Ralston Purina Co., Delmar, Del., Branch.
The Pillsbury Co., Atlanta, Ga.
Carnation Co., Albers Milling Div., Jefferson, Wis.
Big Jo Flour Mills, Div. International Milling Co., Wabasha, Minn.
Spartan Grain & Mill Co., Newberry Mill.
Ralston Purina Co., Guntersville, Ala., Branch.
General Mills, Inc., Feed Mill., Stockton, Calif.
Cooperative Mills, Inc., Guntersville, Ala.
The Pillsbury Co., Los Angeles Refrigerated Foods.
Supersweet Feed, Div. International Milling Co., New Ulm, Minn., Formula Feed Plant.
Supersweet Feed, Div. International Milling Co., Des Moines.
General Mills, Inc., Feed Mill, Belmond, Iowa.
Igleheart Bros., Jell-O-Div., General Foods Corp., Pendleton, Ore.
The Pillsbury Co., Lima, Ohio.
General Mills, Inc., Flour Mill, Hopkinsville, Ky.
Capital B Flour Mills, Div. International Milling Co., St. Paul, Minn.
Ralston Purina Co., Richmond, Va., Branch.
National Biscuit Co., Carthage, Mo., Flour Mill.
Ralston Purina Co., Springdale, Ark., Branch.
U. S. Dept. of Agriculture, Commodity Stabilization Service, Kan.

DIVISION II
Group A—General Mills, Inc., Cereal Plant, Buffalo, N. Y.
Group B—Minute Tapioca, Jell-O Div., General Foods Corp., Orange, Mass.
Central Soya Co., Chemurgy Div., Indianapolis.
Peter Paul, Inc., Dallas Div.
National Biscuit Co., Chester, Pa., Cereal Plant.
The Quaker Oats Co., Depew, N. Y.

DIVISION III
Group A—Sealtest Central Div., Chicago.
Group B—Detroit Creamery Div., Detroit Ice Cream Plant.
The Borden Co., Cities Ice Cream Div., Elgin, Ill.
Kraft Foods, Manteca, Calif.
Sealtest Foods, Southern Div., Christiansburg, Va.
Kraft Foods, Pinconning, Mich.
Kraft Foods, Owenton, Ky.

DIVISION IV
Group A—Hunt Foods, Inc., Fullerton, Calif.
Group B—Hawaiian Canneries Co., Kapaa, Kauai.

FLOWERS FOR SAFETY. When Gulf States Utilities Company, Beaumont, Tex., won an award in Group A of National Safety Council's Public Utilities Contest, some unknown friend of safety sent this handsome bouquet. It was displayed along with the plaque in the lobby of the company's office building.

Anderson, Clayton & Co., Foods Div., Jacksonville, Ill.
Group C—Libby, McNeill & Libby, Hartford, Wis.
California Packing Corp., Fresno Plant 68, Dried Fruit Div.
Birds Eye Div., General Foods Corp., Gloucester Plant.
Best Foods Div., Corn Products Co., Skippy Peanut Butter Plant, Portsmouth, Va.
Mountain States Div., California Packing Co., Spanish Fork Plant 136.
Libby, McNeill & Libby, Haiku, Maui, Hawaii.
Rockfield Canning Co., Rockfield, Wis.
The Larsen Co., Fort Atkinson, Wis.
Libby, McNeill & Libby, Spring Valley, Minn.
Libby, McNeill & Libby, Kent, Wash.
Libby, McNeill & Libby, Wyoming, Del.
Hunt Foods & Industries, Inc., Toledo Food Processing Plant 22.
California Packing Corp., San Leandro Plant 57, Dried Fruit Div.
Libby, McNeill & Libby, Leipsic, Ohio.
Libby, McNeill & Libby, Kokomo, Ind.
W. N. Clark Co., Caro Plant.
H. J. Heinz Co., Saginaw, Mich.

DIVISION VI
Group A—General Cigar Co., Division St., Kingston, Pa.
General Cigar Co., Nanticoke, Pa.
Bayuk Cigars, Inc., York, Pa., Plant.
General Cigar Co., Mt. Carmel, Pa.
General Cigar Co., Huntington, W. Va.
Group B—Bayuk Cigars, Inc., Steelton Plant.
General Cigar Co., Factory, Mahanoy, Pa.
General Cigar Co., H.T.L. Plant, Lancaster, Pa.
General Cigar Co., H.T.L. Plant, Mahanoy City, Pa.
General Cigar Co., Ephrata, Pa.
General Cigar Co., Frederick Branch, Lancaster, Pa.
General Cigar Co., Kingston Warehouse, Kingston, Pa.

DIVISION VII
Group A—Frankfort Div., National Distillers Products Co., Div. National Distillers and Chemical Corp.
Group B—Peoria Div., National Distillers Products Co., Div. National Distillers and Chemical Corp.
Old Farmers Distillery, Athertonville, Ky.
Julius Kessler Distilling Co., C. O. and Research, Louisville, Ky.
Hiram Walker & Sons, Peoria, Ill.
Schenley Distillers, Inc., Lexington, Ky.
Hiram Walker & Sons, Uptown Warehouse, Peoria, Ill.

DIVISION VIII
Group A—Theodore Hamm Brewing Co., St. Paul Div.
Group B—Carling Brewing Co., Frankenmuth, Mich.

DIVISION IX
National Biscuit Co., St. Louis Bakery 441.
National Biscuit Co., Denver Bakery.
National Biscuit Co., Cone Bakery, Dayton, Ohio.
National Biscuit Co., Holland Rusk Bakery, Holland, Mich.

DIVISION X
Plantations—Onomea Sugar Co., Papaikou, Hawaii.
Kahuku Plantation Co.
Kilauea Sugar Co., Ltd., Kilauea, Kauai.
Waimea Sugar Mill Co., Waimea, Kauai.
Refineries—American Sugar Refining Co., Franklin Refinery, Philadelphia.

FLUID MILK
Group A—Roberts Dairy Co., Omaha.

—To page 127

"French fried ear plugs" and "hearing histories" help Lockheed solve the problem of noise

Wausau Story

by **DR. ROGER B. MAAS** *Hearing Consultant for Employers Mutuals of Wausau*

"IF WE COULD ADD SOUND to the picture at the left, believe me it would be noisy. This is at the Lockheed Aircraft Corporation in Burbank, California . . . and what we see is part of the assembly line where they're turning out the giant new prop-jet Lockheed Electra. This is one of the quietest airliners in the sky but when it's being built, the noise can be intense. Forging hammers shaping the metal . . . riveting, drilling, pounding! You can understand that noise like that might affect a worker's health and safety. It's a big problem.

"Here's how Lockheed is solving it: First step (nearly 16 years ago) was a survey of the entire plant, using 'sound level meters' to get a scientific measurement of noisy areas and occupations. Then they established an audiometric testing station where specially trained registered nurses measure the hearing of employees who work in noisy areas. At regular intervals re-checks are made to keep an up-to-date 'hearing history' for each employee—a valuable aid in determining the kind of work compatible with each employee's hearing acuity and stability. They use other hearing protective devices too—ear plugs, muffs and machine noise reducers. I have always admired the hearing conservation program Lockheed pioneered."

Riveting is noisy work but it doesn't bother the men up there on the platform who shoot and buck rivets on the tail assembly of a Lockheed Electra. They wear ear plugs like those being discussed by the two Safety Men in the foreground. That's J. F. Hatton at the right, Lockheed's Chief Safety Engineer, with Carl Parham (left), Accident Prevention Manager from Employers Mutuals' Los Angeles office.

"Hearing Histories" are kept up to date by regular re-checks of employee's hearing. Here Louise Davidson, R.N., in charge of Lockheed's Audiometric Testing Section, re-measures the hearing of Herb Dirlam, sheet metal worker. The next picture shows Era Widle preparing ear plugs. Cotton Strips are "French fried" to impregnate them with wax. As many as 5,000 plugs are used a day.

Employers Mutuals is proud of the leadership of policyholders like Lockheed in the battle against noise. Our experience in this field has proved helpful in many places and in many ways. In Wausau, our home town, business men established the first city hearing measurement center. The Visiting Nurses Association handles this free service for employees in Wausau industry. Wherever sound is a problem for Employers Mutuals' policyholders, our experts in hearing protection and noise control are ready to serve.

Employers Mutuals has offices all across the country. We write all forms of fire, group and casualty insurance (including automobile). In the field of workmen's compensation we are one of the largest. We are proud of our reputation for fast claim service and our experience in preventing accidents. Consult your telephone directory for your nearest representative or write us in Wausau, Wisconsin.

Employers Mutuals *of* Wausau

"Good people to do business with"

Circle Item No. 42—Reader Service Card

NATIONAL SAFETY COUNCIL—AUDITOR'S REPORT, 1958

To the Board of Directors,
National Safety Council:

We have examined the balance sheet of NATIONAL SAFETY COUNCIL (a Federal corporation organized not for profit) as of December 31, 1958, and the related statements of income and expenses and source and application of funds for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We had made a similar examination for the year ended December 31, 1957.

In our opinion, the accompanying balance sheet and statements of income and expenses and source and application of funds present fairly the financial position of National Safety Council as of December 31, 1958, and the results of its operations and the source and application of funds for the year then ended, and were prepared in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR ANDERSEN & Co.

Chicago, Illinois,
March 23, 1959.

BALANCE SHEETS—DECEMBER 31, 1958 AND 1957

ASSETS

	1958	1957
CURRENT ASSETS:		
Cash (including $110,190 in 1958, held by Trustees)	$ 634,172	$ 568,067
U. S. Government savings bonds, at redemption value	$ 738,779	$ 541,150
Accounts receivable, less allowance for doubtful accounts of $10,773	$ 496,667	$ 545,760
Inventories, at approximate cost which is not in excess of market—		
Publications and merchandise	$ 617,690	$ 629,333
Paper stock, printing and shipping supplies, etc.	77,452	80,596
	$ 695,142	$ 709,929
Deposits and prepaid expenses	$ 94,525	$ 97,564
Total current assets	$2,659,285	$2,462,470
FIXED ASSETS, at cost:		

	Gross	Reserves		
Leasehold improvements	$592,463	$195,708	$ 396,755	$ 431,995
Furniture and Fixtures	282,887	186,688	96,199	111,774
Printing machinery and equipment	51,074	29,345	21,729	23,293
	$926,424	$411,741	$ 514,683	$ 567,062
			$3,173,968	$3,029,532

LIABILITIES

	1958	1957
CURRENT LIABILITIES:		
Accounts payable	$ 161,297	$ 133,955
Accrued expenses and other liabilities	77,209	72,627
Deferred income—unfulfilled membership and service contracts, etc.	1,302,073	1,248,875
Total current liabilities	$1,540,579	$1,455,457
CONTRIBUTIONS AND APPROPRIATIONS FOR SPECIAL PROGRAMS	$ 143,218	$ 140,084
RESERVE FOR CONTINGENCIES	$ 300,000	$ 300,000
NET ASSETS EMPLOYED FOR THE BENEFIT OF MEMBERS:		
Balance at beginning of year	$1,133,991	$1,117,555
Income over expenses	56,180	16,436
Balance at end of year	$1,190,171	$1,133,991
	$3,173,968	$3,029,532

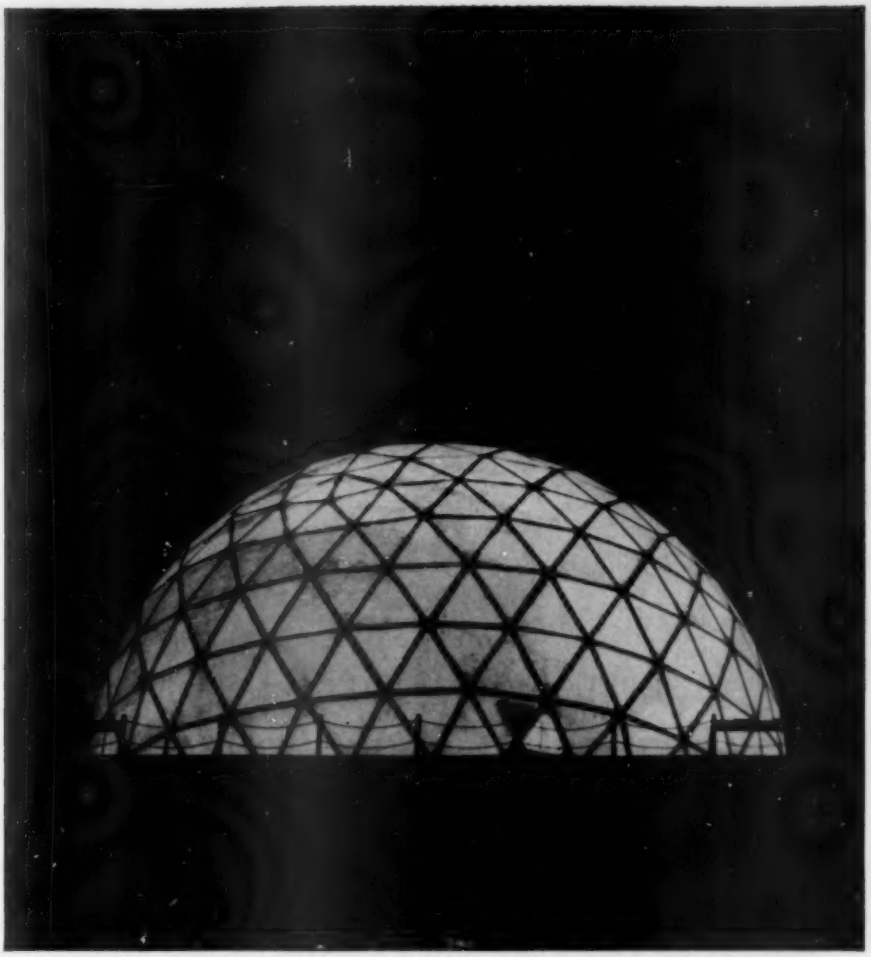
STATEMENT OF INCOME AND EXPENSES FOR THE YEARS ENDED DECEMBER 31, 1958 AND 1957

	1958	1957
INCOME:		
Dues, publications and services	$4,095,400	$4,245,777
Contributions	892,334	831,858
Other income	100,965	100,376
	$5,088,699	$5,178,011
EXPENSES:		
Publications and materials	$1,931,311	$1,990,541
Program administration and research	1,045,756	1,124,732
Administrative and general office (including depreciation and amortization of $61,235 in 1958, and $67,281 in 1957)	899,425	853,127
Membership, advertising and services	556,714	659,011
Public information and education	192,123	203,636
Local chapter and council development	364,295	285,671
Contributive fund solicitation	42,895	44,857
	$5,032,519	$5,161,575
INCOME OVER EXPENSES	$ 56,180	$ 16,436

STATEMENT OF SOURCE AND APPLICATION OF FUNDS FOR THE YEAR ENDED DECEMBER 31, 1958

SOURCE OF FUNDS:	
Excess of income over expenditures	$ 56,180
Noncash charges against income (provision for depreciation and amortization)	61,235
Increase in contributions and appropriations for special programs	3,134
	$120,549
APPLICATION OF FUNDS:	
Net additions to fixed assets	8,856
INCREASE IN WORKING CAPITAL	$111,693

THE ARCTIC EYE THAT NEVER SLEEPS



This plastic radome houses a radar antenna constantly scanning the skies to detect the presence of aircraft. A line of these radars provides early warning of any threatening approach to the North American continent.

The Distant Early Warning Line is now on perpetual guard duty. Spanning the Arctic from Baffin Island to Alaska, this great system was conceived at the Lincoln Laboratory of M.I.T. and produced under the leadership of Western Electric, the Bell System's manufacturing and supply unit.

But first the DEW Line had to be engineered into a workable system. This was done at Bell Telephone Laboratories.

The obstacles were formidable. Conventional means of communication—telephone poles, cables and even line-of-sight microwave radio—weren't feasible. A complicated system had to be made to operate reliably in a climate so cold that outdoor maintenance is impracticable farther than a few hundred feet from heated habitation.

Whenever possible, Bell Laboratories engineers utilized well-proven art. But as it became necessary, they innovated. For example, they designed and directed the development of a new and superior radar which automatically scans the skies, pinpoints a plane and alerts the operator.

To reach around the horizon from one radar station to another, they applied on a massive scale a development which they pioneered—transmission by tropospheric scatter. Result: at a DEW Line Station you can dial directly a station more than a thousand miles away and converse as clearly as with your home telephone.

The Bell System's contribution to the DEW Line demonstrates again how telephone science works for the defense of America.

BELL TELEPHONE SYSTEM

Cable-Laid Slings have the Flexibility of Manila Rope, the Strength of Steel!

• Cable-Laid Slings are the most versatile wire rope slings ever made! Flexible...strong...resistant to kinking...free from crankiness—they offer a unique combination of advantages that make them the solid favorites for any lifting application where ease of handling is all-important. Many users report Cable-Laid Slings cut rigging time in half, while others say they outlast standard slings 3 to 1!

The secret of Cable-Laid Slings is in the construction of the wire rope—a combination of six individual wire ropes, not strands, laid around a special steel center. Result: Cable-Laid Slings won't kink—even when used on heavy loads with square corners.

Galacco coating keeps Cable-Laid Slings clean and bright, gives them maximum resistance to corrosion. Patented DUALOC endings double-lock sling ends for double security.

And, of course, Cable-Laid Slings are *Registered* Slings. This means that each sling is proof-tested at twice the load-carrying capacity for which it is rated. Then, and only then, does it receive the ACCO tag and certificate of registration.

Get the details on Cable-Laid from your nearby distributor—or write us at Wilkes-Barre, Pa., for **Folder DH-532** giving strengths and weights on a full range of Cable-Laid Slings.

ACCO Registered
WIRE ROPE SLINGS

Wire Rope Sling Dept. · American Chain & Cable Company, Inc.
Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Portland, Ore., San Francisco, Bridgeport, Conn.
In Canada: Dominion Chain Company, Ltd., Niagara Falls, Ontario

ACCO

Circle Item No. 43—Reader Service Card

—From page 106

Carton Plant, Stockton, Calif.

Ford Motor Co., three awards: Buffalo Stamping Plant, Metal Stamping Div.; Livonia Automatic Transmission, Transmission and Chassis Div.; Twin Cities Assembly Plant, Ford Div.

General Aniline & Film Corp., Ozalid, Johnson City, N. Y.

General Dynamics Corp., two awards; Convair, San Diego Div.; Fort Worth, Texas.

General Electric Co., four awards: Design Engineering Sub-Section, Large Steam Turbine-Generator Dept.; Ohio Lamp Wks., Warren, Ohio; St. Louis Lamp Plant; Trumbull Lamp Wks., Warren, Ohio.

General Mills, Inc., Terminal Elevator.

General Motors Corp., Detroit, Mich.

General Steel Castings Corp., National Roll & Foundry Div., Avonmore, Pa.

Goodyear Tire & Rubber Co., three awards: Engineering Div., Akron, Ohio; Java, Indonesia; Peru.

Graver Tank & Mfg. Co., Div., Union Tank Car Co., East Chicago, Ind.

Great Northern Railway Co., Store Dept., St. Paul, Minn.

Hamilton Paper Co., Miquon, Pa.

Theo. Hamm Brewing Co., St. Paul, Minn.

Hercules Powder Co., Port Ewen, N. Y., Plant.

Arnold Hoffman & Co., Inc., Dighton, Mass.

Jones & Laughlin Steel Corp., Aliquippa, Pa., Works Div.

Kaiser Gypsum Co., Inc., Insulating Prods. Div., St. Helens, Ore.

Kennecott Copper Corp., Nevada Mines Div., Ruth, Nev.

Lago Oil & Transport, Aruba, Netherlands Antilles.

Lever Brothers Co., two awards: Edgewater, N. J.; Research Center, Lever House and seven Plants.

Libby McNeill & Libby, Hartford, Wis.

Mohasco Industries Inc., Mohawk Div., Amsterdam, N. Y.

Monsanto Chemical Co., four awards: Chemical Mfg., St. Louis, Mo.; John F. Queeny Plt., St. Louis, Mo.; Lion Oil, El Dorado, Ark., Chem. Plt.; Lion Oil Co., El Dorado, Ark.

National Distillers Products Co., two awards: Frankfort, Ky., Div.; K. D. & W. Plant, Louisville, Ky.

National Electric Products Corp., Ambridge, Pa.

FIVE IN A ROW. For the fifth consecutive time, United States Steel Corporation has won the National Safety Council's Award of Honor. Above: Howard Pyle, president of the Council (left), presents the award to Clifford F. Hood, president of U. S. Steel. For 1958 U. S. Steel had a frequency rate of 1.10 per million man-hours. This was 68 per cent lower than the rate for the industry during the previous year.

National Malleable & Steel Castings Co., Sharon, Pa.

National U. S. Radiator Corp., Cyclotherm Div., Oswego, N. Y.

New Orleans Public Service, Inc., Transit Dept.

Northwest Airlines, Inc., Overhaul Base, St. Paul, Minn.

Ogilvie Flour Mills Co., Ltd., Medicine Hat, Alta., Canada.

Olin Mathieson Chemical Corp., East Alton, Ill., Plants.

Orange Pulp & Paper Mills, Paper Div., Orange, Texas.

Pan American World Airways, two awards: Pacific Alaska Div., Flight Crews; Pacific Alaska Div., Stations.

Philco Corp., Plant 41, Spring City, Pa., Plant.

Pickands Mather & Co., The Erie Dock Co.

Pitney Bowes, Inc., Home Office Operation, Stamford, Conn.

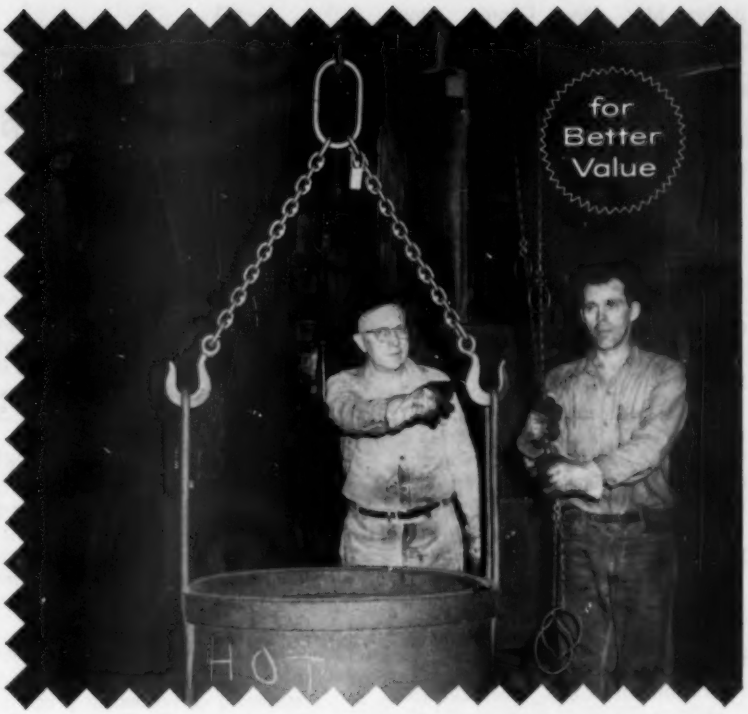
Pittsburgh & Conneaut Dock Co., Entire Conneaut, Ohio.

Procter & Gamble Co., Ivorydale Food Prod. Plt., Ivorydale, Ohio.

Radio Corporation of America, Cambridge Plant.

Remington Arms Co., Inc., four awards: Bridgeport, Conn.; Bridgeport, Conn.; Ilion, N. Y.; Lake City Arsenal.

Republic Steel Corp., two awards:



Four "Bonus Values" Add to the Safety of Acco X-Weld Chain Slings!

• For certain types of lifts, there is one and only one product to use for maximum safety and efficiency... chain! But why only chain? Because chain offers qualities of tensile strength and flexibility not found in any other material. The next time you are confronted with an extra-heavy lifting problem, don't take a chance with a makeshift sling *that may not do the job!* Be sure... with ACCO *Registered* Sling Chains! Only with ACCO *Registered* Sling Chains do you get these four "bonus values" which add materially to the worth, but not the cost, of the sling...

1. **Accoloy X-Weld Chain** for extra strength. X-weld hangs straight... cannot kink... has extra resistance to bending
2. **New Shaped Master Link** is designed to withstand deformation under loads up to 18% greater than round section link
3. **Acco Registration Ring** is serially numbered as evidence that the sling has been proof-tested at twice its working load limit
4. **Registration Certificate** signed by American Chain & Cable Company attests to the field-design of the complete sling

Only ACCO *Registered* Sling Chains, with Magnafluxed-tested hooks, give you premium quality features at regular prices. Find out about them from your nearby ACCO *Registered* Sling Chain Distributor or write us at York, Pa., for full details.

ACCO Registered
CHAIN SLINGS

American Chain Division · American Chain & Cable Company, Inc.
Bridgeport, Conn. • Factories: *York and *Braddock, Pa.
Sales Offices: *Atlanta, Boston, *Chicago, *Denver, Detroit, *Houston, *Los Angeles, New York, Philadelphia, Pittsburgh, *Portland, Ore., *San Francisco
*Indicates Warehouse Stock

ACCO

Circle Item No. 44—Reader Service Card

Berger Mfg. Div., Canton, Ohio; Truscon Steel Div., Youngstown, Ohio.

Royal McBee Corp., Hartford, Conn., Plants.

Sandia Corp., Albuquerque, N. M.

Sibley Machine & Foundry Corp., Eckman St. Plant, South Bend, Ind.

Sperry Farragut Co., Div. of Sperry Rand Corp., Bristol, Tenn.

Splicedwood Corp., Ashland, Wis.

The Standard Oil Co. (Ohio), two awards: Cincinnati, Ohio Sales Div.; Cleveland, Ohio.

Sutherland Paper Co., Kalamazoo, Mich.

Sylvania Electric Products, Inc., three awards: Electronic Tubes Div., Brookville, Pa.; Gen. Off. Lighting Div., Salem, Mass.; Receiving Tube Plt., Altoona, Pa.

Tee Pak, Inc., Chicago & Danville, Ill.

Texas Co., Caltex Philippines, Inc., Batangas Ref., New York, N. Y.

Texas State Highway Dept., Austin, Texas.

Tractomotive Corp., Deerfield, Ill.

Union Asbestos & Rubber Co., Plant 5, Marshville, N. C.

Union Carbide Corp., Union Carbide Metals, Niagara Falls, N. Y.

Union Carbide Nuclear Co., Colo. Min. Dept., Grand Junction, Colo.

United States Gypsum Co., Oakfield, N. Y., Plant.

U. S. Pipe & Foundry Co., General Office, North Birmingham, Ala.

United States Rubber Co., Naugatuck Footwear Plant.

United States Steel Co., six awards: Gary Steel Works; Oliver Iron Mining Div., Duluth, Minn.; Oliver Iron Mining Div., Pioneer Mine, Ely, Minn.; Oliver Mining Div., Soudan, Minn., Mine; Steel Producing Divisions; Tennessee Coal & Iron Div., Fairfield, Ala.

Visking Co., Div. of U.C.C. Food Casings Div., Chicago.

Western Electric Co., Inc., six awards: Atlanta-East Installation Area, Telephone Sales Div., Installation; Cleveland, Ohio, Area Installation; Distributing House, Philadelphia, Pa.; Pittsburgh Distributing House; Distributing House, San Francisco, Calif.; Greensboro, N. C., Shops.

Westinghouse Electric Corp., five awards: Air Arm Div., Baltimore, Md.; Appliance Div., Columbus, Ohio; Elevator Div., Construction, Jersey City, N. J.; Meter Works, Newark, N. J.; Mica Products Dept.

Weyerhaeuser Timber Co., Saw Mill, Klamath Falls, Ore.

Employee Booklets

EMPLOYEE education booklets are a basic part of your safety program. The National Safety Council publishes a wide variety of such booklets which can help shape sound safety attitudes or instruct your employees in the safe practices related to their work or off-the-job activities. Sample copies of recent booklets are available by circling the key number of the ones you want on the Reader Service Card at the back of this issue.

WHAT TO DO ABOUT HOME INJURIES

A valuable reference book covering the prevention and emergency treatment of most home injuries. A must for every home. Easy to read, illustrated, the booklet is approved by the American Medical Association and the American National Red Cross. Stock No. 599.64. Thirty six pages, 5½″ x 8½″, two-color illustrations. **Circle No. 504—Reader Service Card.**

GETTING ON—SAFELY

A booklet for older people. It points out many special accident hazards for the aged and suggests ways to avoid them. Suitable for off-the-job, pre-retirement or retirement programs, it is attractively printed and illustrated. Stock No. 599.72. Twelve pages, 3¾″ x 8″, full color illustrations. **Circle No. 505—Reader Service Card.**

DON'T BE ALARMED

A humorous booklet with a serious message—Fire Prevention! Covers all phases of successful fire prevention and points out to employees that the main causes of fires are carelessness and lack of knowledge. Stock No. 195.80. Sixteen pages, 3¾″ x 8″, two-color illustrations. **Circle No. 506—Reader Service Card.**

SAFE AT HOME

A booklet that asks "How Safe Is Your Home?" Explains how to make any home safer, covering virtually every aspect of family safety. An up-dated edition of an older, highly popular Council booklet. Illustrated with photographs. Stock No. 599.61. Sixteen pages, 3¾″ x 8″, printed in two colors. **Circle No. 507—Reader Service Card.**

EASY DOES IT

A long-needed booklet covering all phases of safety in materials handling. Profusely illustrated with cartoons, the booklet gives helpful suggestions on safe use of hand trucks, power trucks, cranes, and manual material handling. Stock No. 195.70. Sixteen pages, 3¾″ x 8″, two-color illustrations. **Circle No. 508—Reader Service Card.**

THE PROFESSIONAL TOUCH

"Professional drivers are made—not born!" and this booklet shows how the average driver can acquire the techniques used by the "pros" to avoid accidents. A valuable booklet both for commercial drivers and passenger car drivers of all ages. Amusing illustrations. Stock No. 294.08. Twelve pages, 3¾″ x 8″, printed in two colors. **Circle No. 509—Reader Service Card.**

ARE YOU SAFETY MINDED?

An amusing "rogue's gallery" of cartoon characters representing "types" of unsafe workers. An effective way to reach employees having the same attitudes and ways to help change them. Stock No. 192.15. Sixteen pages, 3¾″ x 8″, full color illustrations. **Circle No. 510—Reader Service Card.**

For information on other Council employee training publications write to National Safety Council, 425 N. Michigan Ave., Chicago 11.

WHAT'S NEW
IN NATIONAL SAFETY COUNCIL SERVICES*

*Look to this page each month for latest news about NSC services. Use the Reader Service Card (opposite back cover) to obtain sample copies of those publications showing a Reader Service Card number. For additional information on publications shown, write to Membership Service Division, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Five-Minute Talks

The National Safety Council has published another in its series of five-minute safety talks for foremen.

Book 9 contains 52 talks—one for each week of the year—written by a foreman.

Subjects range from "Mind Your Own Business" and "Never Too Wise or Too Old to Learn," to "The Wild Machine."

Five-Minute Safety Talks for Foremen—Book 9, is a proved training method that holds listener interest—and sells safety.

For foremen who balk at the thought of giving a speech, the *Five-Minute Safety Talks for Foremen—Book 9* will provide a giant measure of confidence and know-how.

Stock No. 152.10.

For Accident-Free Vacations

"Careless driving is just a lot of waste motion!"

"Drive safely—arrive safely."

These are bits of advice contained in the National Safety Council's newly published vacation safety booklet.

Time for Fun is a multi-colored eight-page booklet designed to bring your employees back from vacation safe and sound.

It discusses, in addition to safe vacation driving, safety in swimming, boating, fishing, and camping.

"Even when vacationing at home," *Time for Fun* advises, "you should take time for safety. It will leave you time for fun."

Stock No. 194.38. Circle No. 512—Reader Service Card.

Child Safety Booklet

Child Safety in the Dangerous Years will be useful in off-the-job programs concerned with the employee's family as well as the employee himself.

The multi-colored, 12-page booklet discusses what parents can do to keep their children safe, and presents a check list of household booby traps for youngsters. It covers the period from birth till 9 years of age.

Child Safety in the Dangerous Years is brightly illustrated. It sets down simple, sensible precautions to make a child's life safer.

Stock No. 599.35. Circle No. 511—Reader Service Card.

For a More Successful Poster Program

POSTERS illustrated on the following pages are new, and actually are printed in two or more colors. NOTE: (1) The new 1959 poster directory is also available—with a wide variety of subjects. Stock of those directory-listed posters will be available at least until October 1, 1959. (2) Most posters appearing in NATIONAL SAFETY NEWS in 1959 will be stocked throughout the year.

JUMBO POSTER FOR JULY 1959

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".

SAFETY BANNER FOR JULY, 1959

Here is the attention-getting, monthly cloth banner. Available in two types —indoor and outdoor—both are identical in size (10 feet long by 40 inches high, have the same general message and multi-color design. Indoor type is of sturdy drill with grommets for easy hanging, while the outdoor banner is of extra heavy drill with wind vents, and has strong stitched-in rope for durability.

©NATIONAL SAFETY COUNCIL

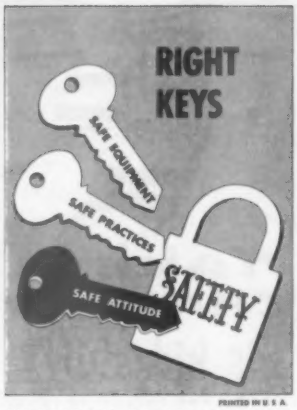
1626-A **8½x11½**

This new four color poster is illustrative of the 72 four color posters shown in the 1959 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors

(Available only in sizes indicated)



©NATIONAL SAFETY COUNCIL

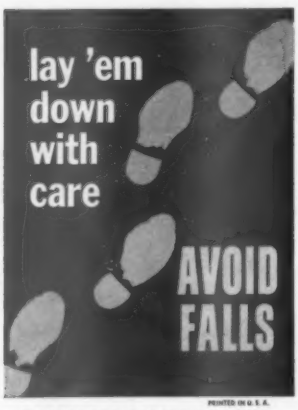
1405-A **8½x11½**

©NATIONAL SAFETY COUNCIL

1572-A **8½x11½**

©NATIONAL SAFETY COUNCIL

1525-A **8½x11½**



©NATIONAL SAFETY COUNCIL

1477-A **8½x11½**

©NATIONAL SAFETY COUNCIL

1573-A **8½x11½**

©NATIONAL SAFETY COUNCIL

1614-B **17x23**

©NATIONAL SAFETY COUNCIL

1616-A **8½x11½**

©NATIONAL SAFETY COUNCIL

1549-A **8½x11½**

©NATIONAL SAFETY COUNCIL

1601-B **17x23**

Electrotypes can be furnished for all posters illustrated above.

Posters below are printed in two or more colors

(Available only in sizes indicated)

©NATIONAL SAFETY COUNCIL

1425-A 8½x11½

©NATIONAL SAFETY COUNCIL

T-1606-B 17x23

©NATIONAL SAFETY COUNCIL

T-1604-C 25x38
T-1605-A 8½x11½

©NATIONAL SAFETY COUNCIL

V-1594-A 8½x11½

©NATIONAL SAFETY COUNCIL

V-1597-A 8½x11½

©NATIONAL SAFETY COUNCIL

V-1598-B 17x23

POSTER ORDER FORM

SHIP TO:

Organization_____

Address_____

City_____ Zone_____ State_____

To attn. of_____

SEND INVOICE TO:

Organization_____

Address_____

City_____ Zone_____ State_____

To attn. of_____

ORDERED BY

Customer's P.O. Number_____

PRICES EACH	"A" SIZE (ALL)	"B" SIZE (EXCEPT PREFIX T-)	"B" SIZE (PREFIXED WITH T-)	"C"
1-9	—	—	—	$.40
10-99	$.12	$.23	$.20	.30
100-999	.07	.195	.165	.24
1,000-4,999	.06	.155	.132	.22

Prices subject to 10% discount to members. With all orders of less than $3.00 please enclose check or money order.

Quantity	Poster No.	Quantity	Poster No.

ADDRESS ORDER TO: NATIONAL SAFETY COUNCIL, 425 N. MICHIGAN AVE., CHICAGO 11, ILLINOIS

Electrotypes can be furnished for all posters illustrated above.

Diary

—From page 39

gust, and said, "Can you tell us anything, or are you scared?"

"I'm not scared of you," I said. "But I won't commit myself on questions which I can't intelligently answer."

Daley spread his hands on the table, palms up, in a gesture that seemed to imply friendship, openness, and almost anything else one wanted to read into it. "Look, just tell us about safety in the Hopping plant. Tell it your way. Tell us what's good and what's bad. Don't let us force you into any frame of reference you can't accept, but try to help us see the situation as it is."

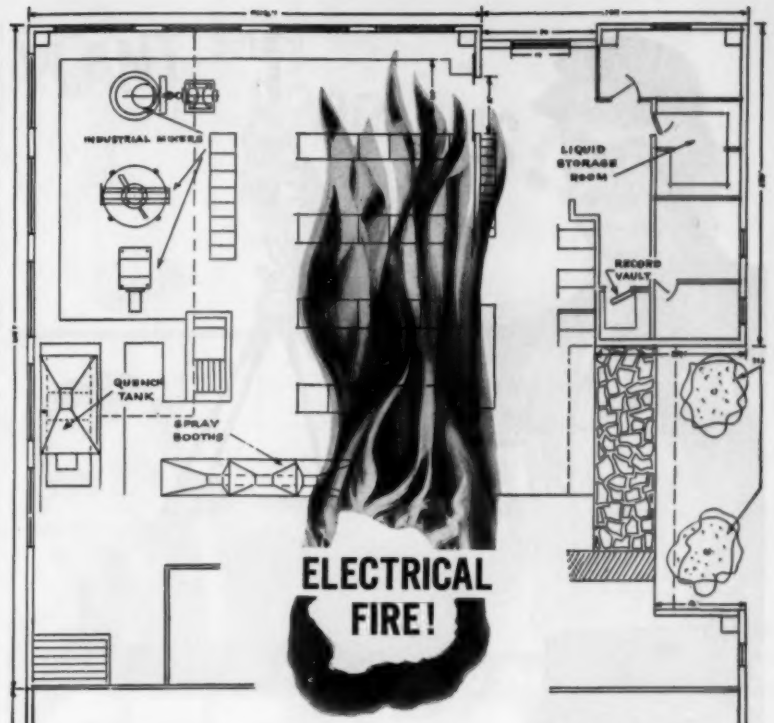
I turned to Lukkens: "I stand in a somewhat confidential relationship with your company and any other company on the project. Are you releasing the whole subject from that seal of confidence, or do you want me to stick to the question as you posed it?"

"Forget how I put the question," he said. "Talk it out, full and straight, and let's get on with it!"

I told them. To Lukkens, I pointed out a number of shortcomings on the part of the plant management during the early months of the plant's operations here. "I had to go clear up to the superintendent to get action on some bad practices that could have been corrected by foremen on the basis of a simple inspection report," I said. "After I did get to the superintendent, and after the bad accident experience of the early months, there was some pretty energetic remedial action."

Then I turned to the union leader, and I let him have it: "First of all, you've exaggerated the case. There were three permanent disabilities—but this doesn't mean three crippled men. They are what we call permanent partial disabilities.

"One man lost one joint of one finger. He's working at his old job at full efficiency." Another man has, if I remember rightly, a slight limp. He has been transferred to another job at the same pay scale. The third is a bad case—an amputation below the elbow of the right arm. He's getting rehabilitation training now,



HOT SPOT in *your* plant?

Chances are 1 in 3 that your plant will have an electrical fire this year. Here's how to guard against it.

In a recent nationwide industrial survey, 29% of the reporting plants had one or more electrical fires during the past two years. Best protection against larger electrical fires? Install a fully-automatic Kidde carbon dioxide fire extinguishing system.

Finest fire protection on the market today, Kidde systems give you 24-hour-a-day protection, act quickly, dependably at the first sign of fire. Kidde systems are pressure-operated, self-contained – need no outside power. Visual indicators show if system is "set" or "released." All parts can be tested without discharging system. No parts to replace after operation or test. All operating parts completely enclosed for safety. Fast, clean carbon dioxide snuffs fire in seconds, then vanishes. Leaves no mess to clean up later, can't harm electrical gear. For more information, write for Kidde's Pressurized Systems booklet today.

Kidde (K Kidde) **Walter Kidde & Company, Inc.**
528 Main St., Belleville 9, N. J.

Walter Kidde & Company of Canada Ltd., Montreal—Toronto—Vancouver

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freeze' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Circle Item No. 45—Reader Service Card

The CF&I Image assures a safe lift

. . . *with* CF&I-Wickwire Slings

This giant steelman symbolizes CF&I's rigid tests and inspections, conducted throughout every stage of production. In the case of Wickwire Wire Rope Slings, such quality control measures are performed to make sure that the sling you buy will give you safe, dependable performance.

Certified Wickwire Slings can be supplied at a small extra cost. These are proof-tested to a load equal to twice their rated capacity, and each carries a tag bearing complete information on safe loading conditions.

Also available from Wickwire—a wide variety of sling assemblies and fittings, including pressed steel or aluminum mechanical eye attachments. For complete information, contact the CF&I-Wickwire sales office nearest you.

6694-A

WICKWIRE
WIRE ROPE SLINGS
THE COLORADO FUEL AND IRON CORPORATION

CF&I STEEL

In the West: THE COLORADO FUEL AND IRON CORPORATION—Albuquerque • Amarillo • Billings • Boise Butte • Denver • El Paso • Farmington (N. M.) • Fort Worth • Houston • Kansas City • Lincoln • Los Angeles Oakland • Odessa (Tex.) • Oklahoma City • Phoenix • Portland • Pueblo • Salt Lake City • San Francisco San Leandro • Seattle • Spokane • Tulsa • Wichita

In the East: WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga • Chicago • Detroit Emlenton (Pa.) • New Orleans • New York • Philadelphia

Circle Item No. 46—Reader Service Card

and he'll be able to work at a watchman job or, if he can learn to write left-handed, he can become a clerk.

"Of the three cases, one was management's fault; one was both management's and the union's fault; and one—the bad one—might happen again, and I don't know how much to blame anybody."

I explained what I meant. The management failure was the amputated finger case. Guards on some saws were poorly designed, difficult to take off and put back. I had pointed this out to the foreman and gotten no action.

The inevitable happened, and one worker simply failed to put a guard back one day. We got off lightly with the loss of only one finger joint. The guards have since been replaced, and a plan of continuing working cooperation between my staff and the engineering department of Hopping ought to prevent any repetitions.

The one I blamed on both the union and the management was a case of bad discipline. A maintenance man was on the job half-drunk. The foreman knew it, and he tried to get the union steward to agree to sending the man home. The steward defended the union member, and the foreman was afraid to raise the issue at a higher level.

The man stayed on the job, and he threw a switch on a conveyor while his partner was working on it. The partner fell six feet from a ladder and got a bad compound fracture. The man responsible was fired, and the foreman and union steward were reprimanded.

"Please don't make a scene, Boss—I'll clean it up."

The third case, I said, was a new worker, a kid just out of school, working in the scrap yard as a common laborer. The third day on the job he cut himself. He tied a rag around the cut and went on working. Some days later, the hand began to hurt, and he finally went to the first-aid department. The infection had a good start by then, and the surgeons said it was a close thing whether he would lose the whole arm. In the end, they were able to salvage from the elbow joint on up.

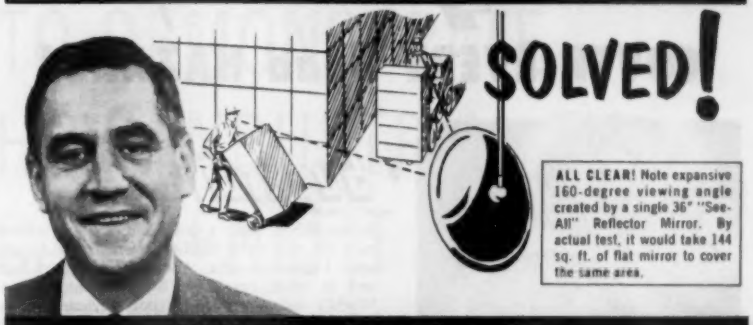
"Understand," I said, "when I say it is hard to blame anybody, I mean only that the blame is on practically everybody. Sure, the personnel department tells all new employees to report all accidents, no matter how minor. But maybe they don't make it emphatic or convincing enough. The foreman of the operation had told the boy the same thing. But the foreman wasn't observant enough to see that bloody rag on the boy's finger, though he worked most of a shift with it on.

"The boy admitted he knew better, but he said he wanted to look good his first days on the job. The older workers around him, including one steward, suggested he get the finger treated, but they didn't press the matter, and they didn't report it to the foreman. So, who's to blame? I don't know, unless you want to say everybody's to blame."

Lukkens asked whether steps had been taken to prevent a similar case. I told them what had been done to call attention to the case, and I said, "I doubt if this particular type of accident is likely to come up in this particular plant soon. But . . .

Karronen broke in, "But what? I see the issue, all right, and I see some things the union has to work on. But it still doesn't answer my question—Is the company going to give this plant the kind of safety program we have back in New Jersey? Or are we going to have more and more bad accidents which can be explanied away with fancy talk?"

I was getting tired of this. "Look, you've gotten no fancy talk from me, and you won't get any. Mr. Karronen spoke of criminal negligence earlier. Mr. Lukkens spoke of bad luck. You're both fooling yourselves. Every accident is caused, and this management is trying to


SOLVED!
ALL CLEAR! Note expansive 160-degree viewing angle created by a single 36" "See-All" Reflector Mirror. By actual test, it would take 144 sq. ft. of flat mirror to cover the same area.

With the Amazing New

SEE-ALL REFLECTOR MIRRORS®

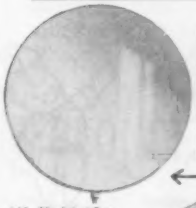
SEE-ALL SAFEGUARDS AGAINST...

• Plant accidents • Injuries • Profit loss
• Lost man hours • Theft • Damaged merchandise

Safety engineers and management hail the new "See-All" Reflector Mirrors as the most remarkable in-plant accident preventive and "efficiency expert" of modern times. Budget-conscious executives acclaim "See-All" as an investment that pays off in dividends thousands of times greater than the initial cost.

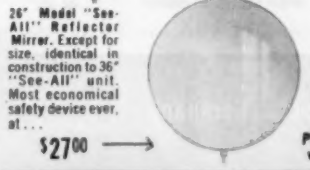
Adjustable and easily-installed, "See-All" Reflector Mirrors eliminate all "blind spots," permit safety-sure operation of both manually-controlled and mechanized equipment and vehicles.

Amazingly low cost covers mirror, stand, brackets and all necessary hardware.



36" Model "See-All" Reflector Mirror. Provides the widest viewing-angle size yet. Copper backing . . . slated . . . quality silvering. Specially-designed swivel back.

← $50.00



26" Model "See-All" Reflector Mirror. Except for size, identical in construction to 36" "See-All" unit. Most economical safety device ever, at . . .

$27.00 →

Razor-sharp reflection of all plant areas banishes costly bottlenecks, slow-downs and work-stoppage before they occur. Made of scientifically-developed convex glass, "See-All" Reflector units bring into sharp focus every assembly line operation. They step up employee alertness, efficiency, and productivity.

NORMAN INDUSTRIES, INC.
2938 N. Halsted, Chicago 14, Illinois

Gentlemen: Date_____

I am very interested in your SEE-ALL REFLECTOR MIRRORS. Please have your representative call on me.

Name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____

Prices subject to change without prior notice.

NORMAN INDUSTRIES, INC., 2938 N. HALSTED, CHICAGO 14, ILL.

Circle Item No. 47—Reader Service Card

...are you getting MAXIMUM SAFETY?

"Supers"

COVER EVERY head HAZARD!

SuperLite® A-1 A-2

Safety-ribbed, heat treated aircraft-type aluminum for maximum rigidity, strength and toughness. Lightest weight! Anodized to reflect heat and to resist corrosion. Smartest appearance. World's most comfortable polyethylene suspension . . . an exclusive feature! Natural color or many others on special order. *Ask for Bulletin 55.*

SuperGlas® P-1 P-2

For maximum protection, durability, economy, Rugged, clean, sterilizable, self-extinguishing, Meet Federal Specs. GGG-H-142B. Exceed Federal Specs. for insulation resistance. No dangerous metal parts. Smooth dome avoids impact concentrations. 9 standard "molded thru" colors including phosphorescent, for job coding. *Ask for Bulletin 55.*

SuperLectric® E-1 E-2

Guards against high voltages, impact and penetration in high or low ambient temperatures. Meets all E.E.I. AP-1-1954 specifications. Smooth domes avoid impact concentrations. Exclusive polyethylene suspension gives maximum comfort. Yellow, White, Orange, Gray; other colors on special order. *Ask for Bulletin 55.*

Others tell us (so we don't need to be modest!) that these *"Supers"* with their exclusive suspension are the most comfortable, best looking and most economical that money can buy. All types of FIBRE-METAL safety and welding equipment are described in Catalog No. 26. Bulletin 55 covers hats and caps. **Ask your Welding & Safety Distributor!**

M-2

For Miners, too! SuperGlas with Lamp Bracket

The FIBRE-METAL Products Company | CHESTER PENNA

In CANADA: Fibre-Metal (Canada) Limited, Toronto

Circle Item No. 48—Reader Service Card

eliminate the causes. They aren't doing an exceptionally good job, because a good bit of the supervision is new, and practically all the labor force is new.

"Foremen and workers need a lot more safety training than they've gotten, but the plant is, for a new plant in a new area, far better than average in safety. What's true of the management is true of the union leadership. You've got some pretty stupid men working for the union, Mr. Lukkens, and some pretty bright ones, too.

"There are officials and stewards I can talk to and get results from. There are others who are a lot more ruthlessly disinterested in safety (at least when it comes to enforcing shop discipline) than any of the supervision."

Daley, pressing for an opportunity to get his men into a mood for agreement, said, "Well, gentlemen, I guess both sides have something to think about. Now, if that issue's out of the way, maybe we can get down . . ."

Karronen stopped him with a gesture of impatience, pulled out a notebook, and said to me: "Names, dates, and places on these cases of union men blocking safety work."

I shook my head. "I'm not your spotter. If the company wants to give you copies of my staff's inspection reports, okay. You won't get them from me. But what I said was true, and you'll find that out if you go to your men and ask questions."

"Okay," he said. "I will. Now, back to the first point. Is this management doing a decent safety job?"

"Look," I said, "you couldn't get me to admit that any management was doing a good enough safety job—not as long as people get hurt. This is not matter of chiseling or callousness. It's a problem of trying to create a safety-minded team of workers and supervision, and that's a tough problem. I think a better-than-average job is being done to solve that problem in the Hopping plant. But there's still a lot that both management and the union can do."

On that note, they let me go. I don't know whether I've advanced the cause of industrial relations, but it was a chance to preach the gospel to the heathen.

Sky's the Limit

—From page 19

dicted that a slight letup in safety alertness, after the goal was reached, was a strong possibility.

To counteract this, new goals were pointed out immediately. The next goal was: surpassing the previous plant record of 1,501,444 man-hours, established in 1955. The following goal was the Kaiser Aluminum Corporation safety record of 1,823,272 man-hours, established by the Trentwood, Wash., plant. Beyond this there was, of course, the industry record of 2,778,082 man-hours established by another aluminum corporation.

To keep these possible goals before the employees, a "Total Safe Man-hours Counter" was devised. It also was mounted on the roof of the machine shop. With the appearance of an elaborate electronic computer, the counter displays the safe man-hours as they are accumulated.

On December 10, 1958, at 6:30 a.m., the plant record was passed. On this occasion, hot coffee and doughnuts were provided employees.

The safety spirit remained high enough to overtake the Kaiser Aluminum Corporation record of 1,823,272 safe man-hours by the end of January. At this writing the satellite is still in orbit, with 2,285,000 man hours as of April 6.

It would be difficult at this time to convince anyone at Kaiser Aluminum's Baton Rouge Works that rockets and satellites had little to do with a record-breaking safety year.

Safety Champions

—From page 112

Group B—Charlotte Sealtest Foods, Southern Div.
Group C—Sealtest Sheffield Farms, Maplehurst Div.
Roberts Dairy Co., Sioux City, Iowa.
Kraft Foods, Southern Receiving Stations.
Detroit Creamery Div., West Plant.
Sealtest Sheffield Farms, Cortland District.
Sealtest Sheffield Farms, Hobart District.
Sealtest Sheffield Farms, Norwich District.
Montgomery Sealtest Foods, Southern Div.
Sealtest Sheffield Farms, White Plains Div.

GLASS AND CERAMICS

FLAT GLASS
Pittsburgh Plate Glass Co., Works No. 6, Ford City, Pa.

BLONDER-TONGUE OFFERS A FREE SURVEY TO DEMONSTRATE HOW INDUSTRIAL TV CAN BENEFIT YOU

Industrial television (closed circuit TV), the newest means of visual communication, is now increasing profits and efficiency for industry, science and education. Undoubtedly, there is some area of your present operation (continuous process control, quality control inspection, data transmission, plant or property protection, monitoring gauge and instruments, safety, dispatching, etc.) that can be improved by the use of industrial TV. The question is—what area?... How will it be benefited?... and what is the cost?

Blonder-Tongue and its nationwide staff of specialists eliminate all the guess-work in industrial television by offering you a free survey in your plant, office, etc. to demonstrate where and how industrial television will benefit you, what an installation involves and the cost. With industrial TV increasing efficiency at companies and institutions similar to your own, you can't afford to miss this opportunity to find out at no risk, no obligation what industrial TV can do for you.

Many leading organizations now rely on Blonder-Tongue industrial TV systems. Included among them are U. S. Steel, Sharon Steel, Southwestern Portland Cement, Johnson & Johnson, E. I. Dupont, General Motors, Brunswick Pulp and Paper, Union Carbide, Douglas Aircraft, Public Service of New Jersey, Los Angeles Dept. of Water and Power, St. Mary's Hospital, Albert Einstein Medical Center, West Phoenix High School and many others.

wire—phone or write today for a free survey

B-T LABS **BLONDER-TONGUE LABORATORIES, INC.**

9 Alling Street, Newark 2, New Jersey
Dept. NSN-5

industrial TV systems • master TV systems • high fidelity components • TV products • FM-AM radios

A completely automatic Blonder-Tongue industrial TV system (compact, rugged camera; automatic light compensator; TV monitor) providing quality pictures can be installed for less than $2,500.00.

Circle Item No. 49—Reader Service Card

THE BIGGEST, NEWEST IDEA IN INDUSTRIAL GLOVES!

PROTECTION NORTH AT ALL POINTS · PVC Gloves by Jomac, job-proved for extra safety, extra wear

Check these advantages . . .

- **Extremely tough**—Last two to five times longer than ordinary industrial gloves
- **Very flexible**—Give greater dexterity than any other coated gloves. Made in sizes for maximum comfort
- **Highly resistant**—Nonflammable, nonoxidizing and resistant to practically all chemicals —will not crack or peel

Give your employees the maximum protection afforded by North PVC Gloves. There is a size to fit every hand—fit it comfortably, and in this way lessen fatigue and increase efficiency. You will find production going up, accident rate going down. Available in knit-wrist, band top and gauntlet types—palm and partial back coated styles.

1600 SERIES. Fully coated, heavy duty.

1800 SERIES. North-Grip—Permruff surface; for handling slippery surfaces.

FREE OFFER—On your business letterhead, kindly furnish details of your working conditions—and we will send you a sample pair.

We also make a complete line of North PVC chemical and foul weather protective garments and the famous Jomac loop-pile industrial gloves, handguards and safety sleeves for hand-to-shoulder protection.

JOMAC *Inc.*

Dept. D, Philadelphia 38, Pa.

Associated companies and distributors throughout the world

Circle Item No. 50—Reader Service Card

GLASS PRODUCTS

Group A—Owens-Illinois, Huntington, W. Va., Plant.

Group B—Pittsburgh Plate Glass Co., Works No. 25, Greensburg, Pa.

CERAMICS

Group A—American Radiator and Standard Sanitary Corp., Tiffin Plant.

Group B—American Radiator and Standard Sanitary Corp., San Pablo Plant.

MACHINE AND MOLD SHOPS

Oakland Central Mold Shop, Owens-Illinois, Oakland, Calif.

MARINE

SHIPBUILDING AND REPAIR—PRIVATE

Heavy Yards—General Dynamics Corp., Electric Boat Div., Groton, Conn.

Light Yards—United States Steel Corp., Marine Ways, Clairton, Pa.

The Pittsburgh & Conneaut Dock Co., Conneaut, Ohio.

Ashland Oil & Refining Co., River Repair Terminal, Catlettsburg, Ky.

SHIPBUILDING AND REPAIR—GOVERNMENT

Group A—Navy Department, San Francisco Naval Shipyard.

HARBOR EQUIPMENT DIV.

U. S. Army Engineer Div., Lower Mississippi Valley, Corps of Engineers.

Ohio River Div., Corps of Engineers.

STEVEDORING DIV—GENERAL CARGO

Kauai Consolidated Terminals, Ltd., Lihue, Kauai, Hawaii.

CARGO AND PASSENGER VESSELS—PRIVATE

Ocean and Coastwise—Alcoa Steamship Co., Inc., Water Transportation.

Inland Waterways—Ford Motor Co., Marine Services, Steel Div.

TANKERS

Ocean and Coastwise—The Atlantic Refining Co., Marine Fleet.

SHIPBUILDING AND REPAIR—GOVERNMENT

U. S. Army Engineer Div., North Central, Chicago.

STEVEDORING—BULK CARGO

The Pittsburgh & Conneaut Dock Co., Conneaut, Ohio.

Ohio & Western Pennsylvania Dock Co., Cleveland, Ohio.

Jones & Laughlin Steel Corp., Union Dock Co., Ashtabula Harbor, Ohio.

The Toledo, Lorain & Fairport Dock Co., Lorain, Ohio.

CARGO AND PASSENGER VESSELS—GOVERNMENT

Class A—Navy Department, Military Sea Transportation Service, Honolulu.

Standard Oil Co. (Ind.), Transportation, Tanker Operations.

Sun Oil Co., Inland Waterways, Marcus Hook, Pa.

The Texas Co., Inland Fleet.

THE PAPER INDUSTRY

PULP AND PAPER MILLS

Group A—Scott Paper Co., Chester, Pa.

Group B—Marinette Paper Co., Marinette, Wis.

Owens-Illinois Glass Co., Valdosta, Ga.

The Chesapeake Corp. of Virginia.

Group C—Schmidt & Ault Paper Co.

Falls Paper & Power Co., Oconto Falls, Wis.

Fibreboard Paper Products Corp., Vernon Board Mill.

Canadian Johns-Manville, Insulating Board Plant, North Bay, Ont.

Pacific Coast Paper Mills Div. of Puget Sound Pulp & Timber Co., Bellingham, Wash.

Group D—Certain-teed Products Corp., East St. Louis, Ill.

The Mead Corp., Sylva, N. C., Div.

Congoleum-Nairn, Inc., Cedarhurst, Md.

United States Gypsum Co., Clark, N. J., Plant.
United States Gypsum Co., Oakmont, Pa.
Central Fibre Products Co., Tama, Iowa.
The Celotex Corp., Los Angeles Plant.
Group E—Johns-Manville Corp., Asbestos, Que.
Fibreboard Paper Products Corp., Sumner Board Mill.
United States Gypsum Co., North Kansas City, Mo.
The Flintkote Co., Lockport, N. Y.
St. Regis Paper Co., Muskingum Fiber Div.
The Flintkote Co., Little Ferry, N. J., Plant.
Scott Paper Co., Madison, Maine.
St. Regis Paper Co., Kraft Div., Herrings, N. Y.
United States Gypsum Co., Gypsum, Ohio, Plant.
Riegel Paper Co., Riegelsville Mill.
American Writing Paper Corp., Gill Div.
Gaylord Container Corp., Div. of Crown Zellerbach Corp., Dresden Mill.
Rayonier, Inc., Shelton, Wash.
Spaulding Fibre Co., Hayes Plant, North Rochester, N. H.
Rogers Corp., Manchester Div., Rogers, Conn.

PAPER BAGS GROUP—CONVERTING DIV.
Union Bag-Camp Paper Corp., Multiwall Bag Div., St. Louis.
St. Regis Paper Co. (Canada) Ltd., Vancouver, B. C.
St. Regis Paper Co., Nazareth Multiwall Bag Plant.
The Pillsbury Co., Wellsburg, W. Va.

BOXES AND CARTONS GROUP—CONVERTING
Group A—Fibreboard Paper Products Corp., Stockton Carton Plant.
Container Corp. of America, Valley Forge Carton Plant.
Gaylord Container Corp., Div. of Crown Zellerbach Corp., Atlanta Plant.
Group B—Container Corp. of America, Philadelphia Carton Plant.
Container Corp. of America, Chattanooga Container Plant.
Container Corp. of America, Boyle Ave. Carton Plant, Los Angeles.
National Container Corp. of Calif., Los Angeles Div.
St. Regis Paper Co., Superior Paper Products Div., Mt. Wolf, Pa.
St. Regis Paper Co., Dubuque Container Co. Div.
Container Corp. of America, Oakland, Calif., Container Plant.
The Mengel Co., Corrugated Box Div., Fulton, N. Y.
Container Corp. of America, Baltimore Container Plant.
Gaylord Container Corp., Div. of Crown Zellerbach, San Antonio Plant.
Container Corp. of America, Renton, Wash., Carton Plant.
Wilson Paper Box Co.
Container Corp. of America, Muskogee Container Plant.
Dairypak Butler, Inc., Southeastern Div.
International Paper Co., Single Service Div., Bastrop, La.
Hunt Crawford Co., Div. of St. Regis Paper Co., Coshocton, Ohio.
Marathon, Div. of American Can, Newman, Ga., Plant.
Dairypak Butler, Inc., Southwestern Div.
Marathon, Div. of American Can, Sunnyside, Wash.
International Paper Co., Single Service Div., Waco, Tex.
International Paper Co., Container Div., Geneva, N. Y.
Weyerhaeuser Timber Co., Kieckhefer-Eddy Div., Hastings, Neb.
Weyerhaeuser Timber Co., Kieckhefer-

CAMPBELL CHAIN OPENS NEW PLANT

Now, Complete Chain Making Facilities For The First Time On The West Coast

Campbell Chain's new plant at Alvarado, California is *the most modern chain plant in the nation.* The completely integrated plant is equipped to supply Campbell warehouses in Portland, Seattle and Los Angeles, and makes possible same-day or overnight shipment of Campbell Chain's complete line of welded and weldless chain.

The Alvarado plant marks a major development in the expansion of the company, adding to manufacturing facilities at York, Pa. and West Burlington, Iowa, and warehouses across the nation.

CAMPBELL CHAIN

CAMPBELL CHAIN *Company*
York, Pa.—W. Burlington, Iowa—Alvarado, Calif.
E. Cambridge, Mass.—Atlanta, Ga.—Dallas, Texas
Chicago, Ill.—Seattle, Wash.—Portland, Ore.
San Francisco and Los Angeles, Calif.

Circle Item No. 51—Reader Service Card

A FEW DOLLARS IN

AMPCO® SAFETY TOOLS

MIGHT HAVE PREVENTED THIS!

What if fire or explosion hit your plant tomorrow? Think of the damage that could be done—the lives and the time that could be lost! Unless you have money to burn, it's simply too expensive to gamble on going without the low-cost protection of Ampco Safety Tools in hazardous areas.

Factory Mutual Laboratories approve Ampco Safety Tools for use in many locations where a hot spark could mean paralyzing disaster.

Ampco has the world's most complete line of safety tools — more than 400 types and sizes — including the Ampco All-Purpose Bung Wrench (shown below) which fits 20 different closures.

Catalog ST-10 tells which Ampco Safety Tools to choose for your particular requirements. Write for free copy today.

T-30A

AMPCO®

AMPCO METAL, INC. Dept. 208E, Milwaukee 46, Wis.

West Coast Plant: Burbank, Calif. • Southwest Plant: Garland (Dallas County), Texas

In Canada: Safety Supply Co., Toronto, Ont.

Circle Item No. 53—Reader Service Card

Eddy Div., Carpentersville, Ill.
Weyerhaeuser Timber Co., Kieckhefer-Eddy Div., Seymour, Ind.
Fibreboard Paper Products Corp., San Joaquin Carton Plant.
International Paper Co., Container Div., Houston, Tex.

INSULATING AND BUILDING BOARD GROUP—CONVERTING DIV.
Barrett Div., Allied Chemical Corp., Elizabeth Felt Mill.
The Ruberoid Co., Erie Lake Plant, Erie, Pa.
The Ruberoid Co., Millis, Mass., Plant.
The Celotex Corp., Cleveland Plant.
The Flintkote Co., Pioneer Div., Portland Plant.
Murray-Brantford Ltd., Lachine Plant.
Fibreboard Paper Products Corp., Wilmington Roofing Plant.
Certain-teed Products Corp., Tacoma, Wash.
The Flintkote Co., Pioneer Div., Canec Plant, Hilo, Hawaii.

SPECIALTIES GROUP—CONVERTING
Lily Tulip Cup Corp., Augusta, Ga., Plant.
St. Regis Paper Co., Panelyte Div., Kalamazoo, Mich.
Kimberly-Clark Corp., Atlas Mill, Appleton, Wis.
Bay West Paper Co., Green Bay, Wis.
Sefton Fibre Can Co., Div. of Container Corp. of America, Portland, Ore.
Kimberly-Clark Canada Ltd., Winnipeg, Man.
Lily Tulip Cup Corp., Chicago Plant.
Sefton Fibre Can Co., Div. of Container Corp. of America, Jeffersonville, Ind.
Kimberly-Clark Canada Ltd., St. Hyacinthe, Que.
Sefton Fibre Can Co., Div. of Container Corp. of America, Oakland, Calif.
Lily Tulip Cup Corp., Galva, Ill., Plant.
Pollock Paper Corp., Houston Wax Plant.
Lily Tulip Cup Corp., Monticello, Ind., Plant.

PULPWOOD LOGGING
The Chesapeake Corp. of Virginia.

PETROLEUM

MANUFACTURING—ENTIRE COMPANY
Group A—Lago Oil & Transport Co., Ltd., Aruba, Netherlands Antilles.
Group B—International Refineries, Inc., Wrenshall, Minn.

MANUFACTURING—INDIVIDUAL PLANT
Group A—The Texas Co., Refining Dept., Port Arthur Works.
Group B—Shell Oil Co., Norco, La., Refinery.
Group C—The Texas Co., Refining Dept., Port Arthur Package Div.

WHOLESALE MARKETING
Group A—Continental Oil Co.
Group B—Champlin Oil & Refining Co.

DRILLING
Group A—Phillips Petroleum Co.
Group B—Gulf Oil Corp., Fort Worth Production Div.

PRODUCING
Group A—Humble Oil & Refining Co., Houston.
Group B—Lion Oil Co., a Div. of Monsanto Chemical Co., Houston.

NATURAL GASOLINE
Group A—Phillips Petroleum Co., Western District.
Group B—United Gas Pipe Line Co., Shreveport, La.

OIL AND GAS PIPE LINE
Group A—Texas Eastern Transmission Corp., Shreveport, La.
Group B—Mid-Valley Pipe Line Co.

EXPLORATION
Sunray Mid-Continent Oil Co., Tulsa.

RESEARCH AND DEVELOPMENT
Jersey Production Research Co.
RETAIL MARKETING
The Standard Oil Co. (Ohio).

POST OFFICE DEPARTMENT

Div. I—U. S. Post Office, Boston.
Div. II—U. S. Post Office, Birmingham, Ala.
Div. III—U. S. Post Office, New Haven, Conn.
Div. IV—Terminal PTS, Washington, D. C.
Div. V—Money Order Center, Bureau of Finance, Post Office Dept.
Div. VI—U. S. Post Office, Covina, Calif.
Div. VII—U. S. Post Office, Abilene, Tex.
Div. VIII—U. S. Post Office, Holyoke, Mass.
Div. IX—U. S. Post Office, Concord, N. H.
Div. X—U. S. Post Office, Berwyn, Ill.

PRINTING AND PUBLISHING

Group A—Burroughs Corp., The Todd Co. Div., Printing.
Group B—The Standard Register Co., Atlantic Div., York, Pa.

PUBLIC UTILITIES

COMBINATION GAS & ELECTRIC
Group A—Gulf States Utilities Co.
Group B—Central Illinois Light Co.
Group C—Wisconsin Michigan Power Co.
Group D—Superior, Wis., Water, Light and Power Co.
GAS
Group A—Hope Natural Gas Co., Clarksburg, W. Va.
Group B—The People's Natural Gas Co.
Group C—Mystic Valley Gas Co. of Springfield, Mo.
The United Gas Improvement Co., Reading, Pa.
Group D—Southwest Natural Gas Co.
City Utilities of Springfield, Mo.
North Shore Gas Co., Salem, Mass.
Lawrence Gas Co.
Gas Light Co. of Columbus, Ga.
The River Gas Co., Marietta, Ohio.
Central Massachusetts Gas Co., Webster, Mass.
Lynchburg, Va., Gas Co.
ELECTRIC
Group A—Duquesne Light Co.
Group B—Southwestern Electric Power Co., Shreveport, La.
Group C—Minnesota Power & Light Co., Duluth.
Group D—St. Joseph, Mo., Light & Power Co.
Kentucky Power Co., Ashland, Ky.
Fall River, Mass., Electric Light Co.
Quincy Electric Co.
Kingsport Utilities, Inc.
Price Bros. & Co., Ltd., Hydro-Electric Dept., Kenogami Div., Kenogami, Que.
Northern Berkshire Electric Co.
Old Dominion Power Co.
Southern Berkshire Power & Electric Co.
Granite State Electric Co.
Maquoketa Valley Rural Electric Cooperative, Anamosa, Iowa.
Northampton Electric Lighting Co.
Central Kansas Electric Cooperative, Great Bend, Kan.
Tri-County Electric Cooperative, Mt. Vernon, Ill.
WATERWORKS
City of Duluth, Water, Gas and Sewage Dept.
City of Vallejo, Water Div., Public Works Dept.
Superior, Wis., Water, Light and Power Co.

Aluminized Heat Barrier Garments
protect melters from splash, radiant heat
...let them work longer in hot spots

Now men who have to work in hot spots—have to face temperatures that scorch cloth, burn skin in seconds—can beat the heat with light weight, flexible reflective-protective garments made of "Scotch·shield" Brand Aluminized Fabric.

Steel melters, for example, can work in front of an electric furnace during the full tapping and slag removal period without discomfort—and with minimum danger of spatter burns.

With this better protection against radiant heat and ease of action, repair and maintenance work can be done without shutting down furnaces and kilns—with speed and safety impossible with conventional "insulation types" of safety clothing.

Garments made of "Scotch·shield" Aluminized Fabric reflect up to 90% of radiant heat—last up to 50% longer than old-fashioned, cumbersome gear. For further facts and samples, mail this coupon today.

SCOTCH·SHIELD* BRAND ALUMINIZED FABRIC
Formerly 3M Brand Aluminized Fabric

MINNESOTA MINING AND MANUFACTURING COMPANY 3M
...WHERE RESEARCH IS THE KEY TO TOMORROW

Minnesota Mining and Manufacturing Company, Dept. NW-59, St. Paul 6, Minnesota
Please send me complete information and free samples of "Scotch·shield" Brand Aluminized Fabric.

Name_____ Title_____
Firm_____
Address_____
City_____ Zone____ State_____

Circle Item No. 53—Reader Service Card

TEXTILE

Div. I—United States Rubber Co., Naugatuck Footwear.
Div. II—The Goodyear Tire and Rubber Co., Ltd., Bogor, Indonesia.
Div. III—The Firestone Tire & Rubber Co., Fuel Cell Div., Los Angeles.
United States Rubber Co., Woonsocket Plant.
Dominion Rubber Co., Ltd., Papineau Factory, Montreal.
Div. IV—United States Rubber Co., Washington, Ind.
American Synthetic Rubber Corp.
Compania Goodyear del Peru. Lima.
The Firestone Tire & Rubber Co. of the Philippines, Manila.
The Firestone Tire & Rubber Co., Synthetic Rubber and Latex Div., Akron, Ohio.
United States Rubber Co., Research Center.
Stauffer Chemical Co., Molded Products Div.
United States Rubber Co., Baton Rouge, La.
Reeves Bros., Inc., Vulcan Plant, Buena Vista, Va.
B. F. Goodrich Sponge Products, Plant 2.
The Goodyear Tire and Rubber Co. of Great Britain, Ltd., Aviation Division, Wallasey, England.
Div. V—Corduroy Rubber Co.
General Shoe Corp., Glenfoam Div.
United States Rubber Co., Santa Ana, Calif.
B. F. Goodrich Industrial Products, Riverside, N. J.
B. F. Goodrich Industrial Products, Du Bois, Pa.
The Goodyear Tire & Rubber Co., Muncie, Ind., Plant.
The Flintkote Co., Whippany, N. J.
Canadian Latex Limited, Montreal.
B. F. Goodrich Sponge Products, Plant 3.
United States Rubber Co., Sandy Hook, Conn.
The Firestone Tire & Rubber Co., Flotation Gear Div., Magnolia, Ark.
Rogers Corp., Willimantic Div., Rogers, Conn.
The Firestone Tire & Rubber Co., Retread Shop, Akron, Ohio.
The Firestone Tire & Rubber Co., Industrial Products Div., Los Angeles.
Ideal Roller & Mfg. Co., Plant 4, Chamblee, Ga.

TEXTILE

DIVISION I
Group A—Tallassee Mills of The Mount Vernon Mills, Inc.
Group B—Spray Cotton Mills, Spray, N. C
DIVISION II
Group A—Appleton Plant, Div. of J. P. Stevens & Co., Anderson, S. C.
Group B—Industria de Pneumaticos, Firestone S. A., Sao Paulo, Brazil.
Group C—Firestone de la Argentina, S. A., Textiles Div., Buenos Aires.

TRANSIT

Div. I—St. Louis Public Service Co.
Div. II—New Orleans Public Service, Inc.
Div. III—Fort Wayne Transit, Inc.

WOOD PRODUCTS

LOGGING
Group A—Hercules Powder Co., Brunswick Wood Camps.
Group B—Crown Zellerbach Corp., Columbia Div.
The Mengel Co., Logging Div., Elizabeth City, N. C.
Diamond Gardner Corp., Superior, Mont.
American Forest Products Corp., Lakeview, Ore.
Crown Zellerbach Canada, Ltd., Quadra Island Div.
SAWMILLS
Group A—Weyerhaeuser Timber Co., Klamath Falls Sawmill.
Group B—Edward Hines Lumber Co., Manufacturing Plant Div., Hines, Ore.
Group C—L & K (North Shore) Ltd., North Vancouver, B. C.
Bay Lumber Co., Ltd., Vancouver, B. C.
Ralph L. Smtih Lumber Co., Mt. Shasta Div.
American Forest Products Corp., Lakeview, Ore.
FLOOR AND VENEER
Group A—Weyerhaeuser Timber Co., Longview Plywood Div.
Group B—General Plywood Corp., Tarboro, N. C.
FURNITURE
Kroehler Mfg. Co., Dallas Plant.
WOOD PRESERVING
Group A—Koppers Co., Montgomery Plant.
Canada Creosoting Co., Ltd., Truro Plant.
Koppers Co., Florence, S. C., Plant.
Koppers Co., Texarkana, Tex., Plant.
Koppers Co., Houston, Tex.
Koppers Co., Newport Plant.
Group B—Koppers Co., North Little Rock Plant.
Koppers Co., Richmond Plant.
Canada Creosoting Co., Sudbury Plant.
Koppers Co., Green Spring, Va.
Koppers Co., Granada, Miss.
Olin Mathieson Chemical Corp., Bell

HOW YOU GET MORE FOR YOUR MONEY WITH "CRYSTALS"

*the only clear plastic, **expendable salt dispensers** you can buy*

1000 TABLET "CRYSTAL-M"

500 TABLET "CRYSTAL"

- So low cost you discard the empties—no refilling, no loose tablets.
- You always see how many tablets remain in transparent "Crystals"— no empty dispensers unreported, no prying off of lids to check supplies.
- All tablets sealed in at our factory for cleanliness.
- Mechanism easy to work with one hand.
- All tablets meet applicable federal specifications.

Stock No.	Description	No. of Tablets	Price
FCE6-10ES	One case—6 dispensers	500 enteric coated	$ 7.92*
FCE6-10RS	One case—6 dispensers	500 impregnated	7.92*
FCEM6-10ES	One case—6 dispensers	1000 enteric coated	11.04*
FCEM6-10RS	One case—6 dispensers	1000 impregnated	11.04*

** Less 10% for 12 cases or more*

STANDARD SAFETY EQUIPMENT COMPANY
431 NORTH QUENTIN ROAD • PALATINE, ILLINOIS

604 BROADWAY, NEWARK 4, N.J.
12921 W. WASHINGTON BLVD., LOS ANGELES 66, CALIF.
855 EAST 152nd STREET, CLEVELAND 10, OHIO

Street Treating Plant.
Koppers Co., Guthrie, Ky.
Koppers Co., Russell, Ky.
Koppers Co., Superior, Wis.

COOPERAGE
Brown-Forman Distillers Corp., Blue Grass Cooperage, Finishing Div., Louisville.

RETAIL LUMBER YARDS
Weyerhaeuser Timber Co., Tacoma, Wash.

BOX MANUFACTURING
United States Plywood Corp., Calif. Div., Shasta Box Dept., Redding, Calif.

WOODWORKING
Group A—Edward Hines Lumber Co., Millwork Div.
Group B—Western Electric Co., Queensboro Shop.
The Marley Co., Stockton, Calif.

WOOD SHINGLES
Canadian Western Lumber Co., Ltd., New Westminster, B. C.

FORESTRY
U. S. Forest Service, Eastern Region, Upper Darby, Pa.
Group B—U. S. Forest Service, Intermountain Forest and Range Experiment Station, Ogden, Utah.
U. S. Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Ore.
Weyerhaeuser Timber Co., Forestry Div.

Wire from Washington

—From page 14

The ICC issued a notice of its intention to amend its regulations to authorize specially designated employees to place "Out of Service" stickers on "any motor vehicle used in the transportation of migrant workers which, by reason of its mechanical condition, is so imminently hazardous to operate as to be likely to cause an accident or a breakdown."

Such regulations would forbid motor carriers to allow or permit the use of such vehicles until the required repairs have been made and the sticker removed.

The ICC announced that, through an increased field staff, it would exert every effort to obtain better compliance with its safety regulations on the part of motor carriers exempt from its economic regulation but subject to its safety regulation.

Aviation Safety. According to figures coming from official sources, accidents involving military aircraft have caused more than 5,000 deaths, and have cost the United States more than 3 billion dollars in the past 5 years. During that period, 18,000 accidents occurred. However, 1958 represented the best record for the Air Force, a rate of

HERC-ALLOY

THE ORIGINAL ALLOY STEEL CHAIN

● Herc-Alloy is a special all-purpose chain with long-wearing properties and high resistance to impact loading.

● Herc-Alloy is sold in running lengths and in all types and sizes of sling chains assembled to customers' specifications.

● CM also produces a complete line of chain attachments and welded chain of all types including stainless steel and bronze.

● Write for literature covering Herc-Alloy Sling Chains, including helpful information on their assembly, care, use and inspection.

Hammerlok® COUPLING LINKS

● Assemble or rebuild your own Herc-Alloy sling chains with all components furnished by your local distributor. Hammerlok is simple, safe, reusable. New Herc-Alloy assemblies can now be ordered with welded or Hammerlok Coupling Links as desired.

CM CHAIN

CALL YOUR CM CHAIN DISTRIBUTOR

COLUMBUS McKINNON CHAIN CORPORATION

Tonawanda, New York

NEW YORK • CHICAGO • CLEVELAND
LOS ANGELES • SAN FRANCISCO

In Canada: McKINNON COLUMBUS CHAIN LTD., ST. CATHARINES, ONT.

Herc-Alloy®

Circle Item No. 54—Reader Service Card

10 major accidents per 100,000 flying hours, compared to 14 in 1957.

S. 1546 would prevent expert testimony by CAB personnel in accidents involving aircraft. The bill would make factual accident information developed by CAB personnel available to litigants to the extent that it is not elsewhere available, and in a manner reducing to a minimum the time CAB personnel are kept away from their regular duties. The CAB amended its Procedural Regulations to exclude liability considerations in CAB hearings on aircraft accidents. Such hearings are to be held solely to discover facts.

The Federal Aviation Administrator issued a notice of proposed rule-making to amend the Civil Air Regulations on physical standards and medical certificates for airmen. This would put into effect recommendations of the Flight Safety Foundation concerning disqualification of airmen afflicted with diabetes, coronary heart disease, psychoses, and other forms of mental or nervous disturbance.

Sen. Engle protested on the floor of the Senate against such heavy official insistence on positive ground control of air flights as to endanger private and business flying. Such "attitude toward safety," he felt, had the effect of down-grading general or non-commercial aviation.

Rep. Fulton called for the prompt development of "safe rocket and space equipment for the young people who are so deeply interested in space and flight problems."

Government. S. 1464 (Keating) would provide for the indemnification of postal-service motor-vehicle drivers against liability for damages arising from operation of such vehicles in the performance of their official duties.

Marine Safety. The Merchant Marine Council scheduled a hearing on proposed changes in the rules and regulations governing vessel inspection. Among proposals for change were specifications for inflatable life rafts; required painting in orange of all existing and new lifeboats, as of January 1, 1961; prohibiting use of toxic vaporizing materials, such as carbon tetrachloride, in fire-protection equipment after January 1, 1962; a variety of engineering and electrical requirements; and the use of power-operated industrial trucks.

LOOK TO... HAWS
for SAFETY
Throughout industry and commerce, HAWS emergency eye-wash and drench shower facilities give immediate first aid for eye, face and body contamination. Skilled design, precision engineering, fine materials... add up to extra safety!
Model 8620 basic eye-wash unit
for SANITARY SERVICE
Drinking facilities to match luxurious or utilitarian surroundings! HAWS fountains and electric water coolers offer top service and sanitation with minimum maintenance cares! Modern service styled in modern materials... assured with HAWS!
Model H-13
Model 1505
Model 7X
HAWS-KRAMER Nyle-Phragm FLUSH VALVE –Critical parts of amazing nylon permit a full 5-year guarantee! A remarkable new item for extended service and sanitation.
SEE THE ENTIRE HAWS LINE in the complete new HAWS Catalog sent free at your request. Write today.
HAWS DRINKING FAUCET COMPANY
1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA
Circle Item No. 55—Reader Service Card

The Contractor

—From page 27

sure that all safety equipment comes up to required standards and that the men abide by all regulations. Good contractors try to secure the same men from the local when they are in the vicinity more than once. Men familiar with a certain type of work are less likely to be involved in accidents.

Safety equipment. Importance of using equipment of the best quality cannot be overemphasized. Unfortunately, maintaining a supply of safety helmets, goggles, shoes, gloves, and other items that would fit all the men of a changing work force would be expensive and impractical. However, we do try to

THE U.S. TREASURY SALUTES THE AIRCRAFT INDUSTRY

—and its thousands of employees who help strengthen America's Peace Power by buying U.S. Savings Bonds

Men and women who make up the great group who design, fabricate, assemble and test our newest aircraft are also making another substantial contribution to our national security. Many thousands of them are buying U.S. Savings Bonds, regularly, through the Payroll Savings Plan.

Regular purchases of Shares in America help these patriotic and thrift-minded people set up substantial reserves for the education of their children, the buying of new homes and the building of their retirement funds. Through the Payroll Savings Plan the practice of thrift is made easy and automatic.

If your company has not yet put in a Payroll Savings Plan, start now. Your State Savings Bond Director is anxious to help and to show you how easy it is to put the Plan to work. Telephone him now. Or write to Savings Bonds Division, U.S. Treasury Department, Washington, D. C.

L. A. MARTIN, skilled aircraft mechanic, is typical of the thousands of valued employees in this field who are buying U.S. Savings Bonds regularly. Mr. Martin, through his company Payroll Savings Plan, is making a personal contribution to the Peace Power of his country.

NATIONAL SAFETY COUNCIL

THE U. S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE.

keep our own personnel equipped with the latest equipment.

Welding is one of the major jobs on erection work, and without proper equipment many serious accidents might result. Our men are equipped with the best available welding helmets. The helmet has an adjustable nut for the headpiece which prevents it from slipping off. Staring at a welding flash for even a few seconds, should the helmet slip off, might cause permanent injury to vision.

We attempt to make sure that those helping or checking the welders or observing their work should have hand shields or appropriate flash goggles. We have found that many cases of welding flashes have been caused by inadvertently striking a non-insulated electrode holder against bare metal. Because of this hazard we use only the insulated type of holder. In addition to the standard tools, welding shields, caps, flash goggles, and vests are supplied.

But if a welder is not safety conscious, even the best equipment is of little value. Many an accident has occurred when approved equipment was used in an unsafe manner. In one case a workman allowed sparks to drop onto a gasoline drum.

Portable grinders. Another source of serious accidents is the portable grinder. Two of the basic accessories that go with the grinder are easy to leave off: the grinder guard, which fits over the grinding wheel, and the safety goggles which protect the operator's eyes from flying particles.

Again, it is important to have instruction in proper handling of the grinder. These tools have been known to slip out of a workman's hands, causing considerable bodily injury and damage to property.

Hard hats. Our men use the varieties of hard hats that have become standard throughout the construction industry. Many a cracked skull has been prevented by the use of this simple equipment.

Foot protection. Protecting the feet is second in importance only to protecting the head. Several basic types of safety shoes are acceptable. In our plants we keep a display of the various types of available safety shoes. Although this is not primarily for field men, they use the same variety. We have found that only certain types of safety shoes give adequate protection. Wearing any other types of shoes in the plant is practically the same as going barefoot.

Oxy-acetylene burning. Burning is another source of serious accidents. Careless burners have caused many costly fires and damage to customers' property and equipment. Use of protective screens and shields is stressed by our foremen. The flash from burning is not nearly as severe as the flash from welding, and therefore an inexperienced operator is often tempted to leave off his burning glasses. Staring into the flame for a few minutes without proper glasses can cause as severe a case of flashed eyes as one might get from a welding flash.

Acetylene and oxygen tanks used by the burners are chained to rubber-tired carts for safety and ease of handling.

Ladders. Not only is it necessary

GET MORE FOR YOUR SALT TABLET MONEY!

MSco
Controlled-action SALT TABLETS
DO take these tablets to help your body fight "heat fatigue"
DON'T let "heat fatigue" rob you of pep, invite prostration, or increase your chances of an accident
DON'T worry about stomach upset when you take these tablets, they have "controlled-action", just follow the simple directions below...
Controlled-action
SALT TABLETS

You pay *only the regular price* of packaged impregnated salt tablets . . . you *get* the complete Medical Supply Company ANTI-FATIGUE STATION:

New AIR-LOCK DISPENSER—All-plastic disposable dispenser locks out air and fumes, and moisture even while dispensing tablet. Gives unequaled protection from moisture deterioration . . . especially important in areas where humidity is a problem and ordinary dispensers are used.

Special CONTROLLED-ACTION TABLETS—Individually incased salt crystals fight heat fatigue fast from moment taken, assure *controlled-rate* protection to worker who takes 2 tablets every 1½ to 2 hrs.

Free EDUCATION PLACARD tells why, how, when to take salt tablets . . . combats false fears, promotes safe, effective use.

Ask for this TEST-TUBE DEMONSTRATION—See this clear demonstration of how MSco Controlled-Action impregnated salt tablets release salt *gradually* after taken . . . give extended protection against heat fatigue, and protect workers against stomach upset.

Specialists in first aid

for demonstration by local representative
write name, company and address in page margin and mail to

Medical Supply Company
Rockford, Illinois
CAMESCO Medical Supplies, Ltd., Toronto 18

Circle Item No. 57—Reader Service Card

to outfit the key men properly but careful attention must be given to maintenance. Consider the common ladder. To keep a ladder from slipping, we must not only tie the top to a sturdy support but also equip it with safety shoes to keep it from slipping on wet or smooth surfaces. These shoes are popular. In fact, we are hard pressed to keep our ladders equipped, because they are constantly being "liberated," either by competition in the plant or by plant employees.

Constant ladder repairs are necessary. Even though the steps or rungs are reinforced with steel rods, a break can be dangerous. Light-metal ladders cannot be used around electrical equipment.

Buying and maintaining good wooden ladders costs between $35,000 and $40,000 a year, but it pays off in fewer accidents and lower compensation costs.

We believe that a successful safety program is possible only with adequate training, plus good equipment.

Heat Beat You?

—From page 42

cooled is fairly small, and heat and humidity extreme, such cooling may prove necessary and feasible. This applies to the installation of conditioning units in crane cabs, rest rooms, and similarly small areas.

When this type of cooling is not immediately practicable, more comfortable working conditions can be provided through various structural changes to the plant:

1. Reflective exterior paint on the roof and south and west walls.
2. Heat-absorbing and glare-reducing glass on south and west sides.
3. Insulation of the roof and side walls.
4. Roof ponds for flat roofs.
5. Resurfacing with tar and white marble chips.
6. Roof gravity ventilators and fresh-air intake blowers.
7. Awnings or louver-type screening for south and west walls.

The beginning worker, having successfully passed a pre-employment examination, should start off with short daily exposures to heat. If fit, his tolerance should be up to about 80 per cent at the end of a week, and at the end of two weeks of increasing exposures, he should be fully adapted. However, periodical physical exams should be scheduled.

Nutrition

Nutrition is a key factor in hot weather health, and there is plenty of advice on the subject in ads and health columns. Generally it boils down to forgetting the fads and sticking to a balanced diet of low-calorie foods, with plenty of fresh fruit and vegetables. Warm lunches are recommended rather than cold foods and drinks.

As for alcoholic drinks, many health authorities are rather fatalistic about giving advice. Alcohol in appreciable quantities does lower the efficiency of the body's built-in temperature regulator. In large doses it inhibits the normal reactions to heat and cold. Alcoholic drinks, if used, should be well di-

Riegel

. . . the preferred glove among skilled welders

TOPS IN DOLLAR VALUE

CHOSEN BY SKILLED WELDERS for extra heat protection, greater finger dexterity, and all-around comfort. Horsehide and "Flextan" leathers stay soft after dry-cleaning. Exposed seams completely welted. Seamless backs.

CHOSEN BY EXPERIENCED BUYERS for soft, sure comfort, longer wearability, excellent price, and quick acceptance in the plant...backed by Riegel's ready service and quick delivery.

COMPLETE LINE for any welding need. Let Riegel's specialists help match the right glove to the job. Ask for free catalog.

GENUINE HORSEHIDE PALM No. 956
Horsehide Palm, clute pattern cut extra long to prevent wrist chafing, and fourchetted for extra comfort and dexterity. Welted and wool-lined for complete protection.

HEAVY WELDER No. 997
Top quality green "Flextan", lined for heavy, hot jobs.

WELDERS MITTEN No. 987
Green "Flextan" leather, excellent protection, flexibility of finger movement.

SPOT WELDER No. 897
For lighter jobs, unlined green "Flextan" leather.

RIEGEL TEXTILE CORPORATION • Conover, N. C.

Circle Item No. 58—Reader Service Card

luted. Citrus drinks, not too sweet, have a place in the summer diet.

Salt replacement. Along with cool water, salt may be needed to replace the body's losses through perspiration. Water temperature should be not colder than 52 F for hot strenuous jobs; for lighter work and for restaurants the temperature may be several degrees lower.

For light occupations in moderate temperatures, enough salt can usually be taken with food. Where there is profuse perspiration because of physical exertion or hot surroundings, extra salt may be needed.

The most widely used method of providing this salt is in tablet form. In addition to the plain 10-grain tablet, four other varieties are available for those whose stomachs rebel at plain salt in adequate amounts.

One type contains 70 per cent salt and 30 per cent dextrose. The sweetener is supposed to supply a little quick energy and make the salt less irritating.

More effective are the enteric-coated tablets which pass through the stomach intact and dissolve in the intestines.

Impregnated tablets contain a network of inert material within the tablet which slows down dissolution.

The fifth type combines the salt and dextrose in an enteric-coated tablet.

Salt tablets also may be provided in individual packages for those whose work takes them away from the plant.

Salt controls some of the worst effects of heat, but it is not a cure-all for summer troubles. Where there is a serious heat exposure, medical supervision is desirable, and many employees need advice from the doctor or nurse on the use of salt.

Persons with kidney or heart disease or high blood pressure should be guided by the doctor's advice on the use of salt and on hot weather hygiene generally. Diabetics should not use tablets containing dextrose.

Daily bathing and frequent washups help to relieve heat and fatigue. Shower facilities in a comfortable change house help workers to become adjusted to temperature changes before going outside.

Clothing worn on hot jobs should be loose and moderately absorbent and changed and laundered frequently. Protective clothing needed for operations for extreme exposures to radiant or convected heat is a subject in itself.

Alter Processes

In altering the manufacturing processes an initial step toward heat

HEATSTROKE, HEAT CRAMPS, AND HEAT EXHAUSTION

Supervisors of men working in heat should become familiar with the causes, symptoms, and recommended treatments for heatstroke, heat cramps, and heat exhaustion.

WATER-COATED 30° INCLINE... STILL NO ACCIDENT

Get Long-Life Protection Against Slipping with Alcoa Abrasive Tread Plate

A slick, water-soaked surface in a vital production area with heavy traffic has all the elements of a safety director's bad dream. Only Alcoa® Aluminum Abrasive Tread Plate prevents such a nightmare. Made with tough particles of fused aluminum oxide, it remains slip-proof even when wet, oily or greasy. It prevents costly slipping accidents that can injure workers, cause production breakdowns and higher insurance rates.

Find out how you can eliminate hazardous conditions on ramps, aisles, catwalks and other areas with easy-to-install, corrosion-resistant Alcoa Abrasive Tread Plate. Check the coupon below, write Aluminum Company of America, 1685-E Alcoa Building, Pittsburgh 19, Pa., or call your nearest Alcoa Distributor.

ALCOA ALUMINUM

Your Guide to the Best in Aluminum Value

For Exciting Drama Watch "Alcoa Theatre," Alternate Mondays, NBC-TV, and "Alcoa Presents," Every Tuesday, ABC-TV

Aluminum Company of America
1685-E Alcoa Building, Pittsburgh 19, Pa.

I'd like to see how Alcoa Abrasive Tread Plate prevents slipping.
Please send me FREE sample—also application, design and fabricating data.

Name_____
Title_____
Address_____
City_____ State_____

Circle Item No. 59—Reader Service Card

control could be a survey of heat produced by radiation and convection from furnaces, steam pipes, cookers, and other heating equipment.

Local environment around the process can be controlled by total enclosure, radiant shielding, thermal insulation, local exhaust ventilation, or a combination.

Radiant heat can be controlled by reflective insulation of the emitting surface; water or air jackets; or fire chains which form a curtain in front of the open furnace doors. Exhaust hoods overhead will take away convection heat at the source.

Radiant screening, portable or permanent, deflects up to 70 per cent of the heat load. It can be used where insulation directly over a furnace casing might cause overheating of refractory brickwork. Enclosure partitions of reflective sheeting encircle the heat source. Openings at the bottom of the sheeting produce a chimney effect. Smoke, fumes, and gases are swept outdoors with convection heat and without fans.

Windows and roof ventilators, pedestal fans to remove hot air from corners, and wall or roof-mounted blowers to suck in fresh air will do part of the job. But they're more effective in winter than in summer.

When outside temperatures go up to 100F or more, air movement won't help, unless the relative humidity is very low. Strong currents of air moving over hot surfaces will heat up the air and make conditions worse.

Jets of air on workers is one way of cooling them under extremely high temperatures. The temperature of the jet should not be more than 10 degrees below the ambient temperature and never lower than 80 F. Cooler air can be furnished by ducts from outside, from evaporative coolers or portable blowers.

Chemical dehydration of the atmosphere is often helpful in hot, moist industries. Mechanical cooling is more expensive than dehydration but is usually less desirable. Perspiring people shouldn't be exposed to drastic temperature changes of cold blasts.

NFPA to Meet in Atlantic City

Fire protection authorities from all over the world will meet in Atlantic City June 1-5 for the 63rd annual meeting of the National Fire Protection Association.

Opening June 1, it is expected to be attended by 2,000 persons, principally from the United States and Canada, with a number of other countries also represented. Speakers will include experts from Great Britain, Australia, the United States, and Canada.

The school fire problem, brought into sharp focus by last December's Chicago tragedy, will be one of the important topics.

Another major item of business is proposed revision of the National Fire Codes, prepared and published annually by the Association. Among them a new and revised National Electrical Code is to be presented to the meeting for action.

new high impact PLASTIC SAFETY HAT

SURPASSES OFFICIAL SPECIFICATIONS!

ADJUSTABLE SUSPENSION

TOUGH: Molded high impact plastic unaffected by heat or cold.

FITS ALL HEAD SIZES: Molded plastic suspension has adjustable headband to fit exact head sizes from 6⅝ to 8¼. Snaps into molded slots in hat.

ECONOMICAL: Suspension in two parts, each replaceable. Sweatband replaceable.

COMFORTABLE: Back of headband fits snugly . . . keeps hat from falling or blowing off.

SAFE: Exceeds Edison Electrical Institute and Federal specifications. Dielectric suspension is non-conductor.

3 COLORS: Gray, white, yellow.

SEND FOR BULLETIN NO. 1415

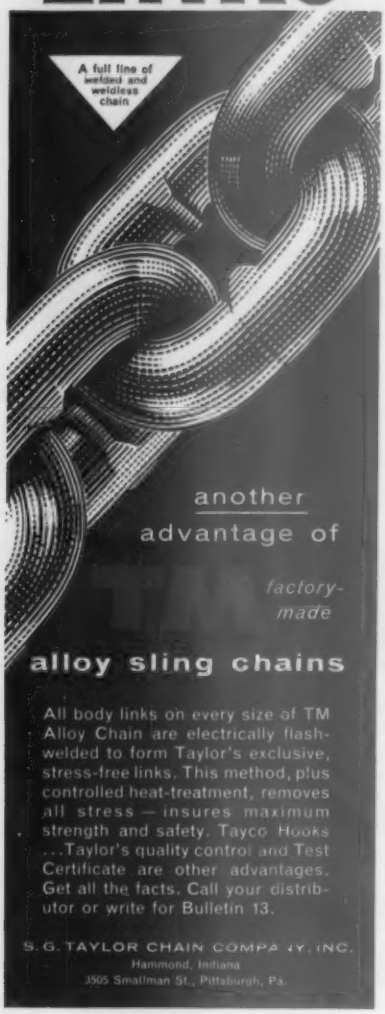
SAFETY DAVIS DIVISION

DAVIS EMERGENCY EQUIPMENT CO., INC.

55 Halleck St., Newark 4, N. J.

Circle Item No. 40—Reader Service Card

STRESS FREE LINKS


A full line of welded and weldless chain
another
advantage of
factory-made
alloy sling chains
All body links on every size of TM Alloy Chain are electrically flash-welded to form Taylor's exclusive, stress-free links. This method, plus controlled heat-treatment, removes all stress — insures maximum strength and safety. Tayco Hooks ...Taylor's quality control and Test Certificate are other advantages. Get all the facts. Call your distributor or write for Bulletin 13.
S. G. TAYLOR CHAIN COMPANY, INC.
Hammond, Indiana
3505 Smallman St., Pittsburgh, Pa.

Taylor Made CHAIN SINCE 1873

Circle Item No. 61—Reader Service Card

CONSULTATION CORNER

?

Questions on accident prevention, fire protection and occupational hygiene are answered by mail. A few are selected for publication

By L. C. SMITH, Industrial Department, NSC

Color Code For Piping

Question: We are interested in the recommended color code for piping. We handle a number of chemicals and would like to identify the contents by a color code system.

Answer: The best guide for identifying the contents of pipes is the American Standard, *Scheme for the Identification of Piping Systems ASA A13.1-1956*, published by the American Society of Mechanical Engineers, 29 West 39th Street, New York. The following is quoted directly from this code:

"Positive identification of a piping system content shall be by lettered legend giving the name of the content in full or abbreviated form. Arrows may be used to indicate the direction of flow.

"Where it is desirable or necessary to give supplementary information such as hazard or use of the piping system content, this may be done by additional legend or by color applied to the entire piping system or as colored bands. Legends may be placed on colored bands.

"When color, applied to the entire piping system or as colored bands, is used to give supplementary information it shall conform to the table below.

If you are considering a color system for identifying a number of liquids, I doubt if such a system is advisable. Several companies have tried systems of this type, where a specific color was used to identify the contents of a pipe, and soon found they had a large number of colors in use.

They also found it difficult to familiarize their workers with such a code. Consequently, the *lettered* legend and color seems to be the most satisfactory solution.

Laundering, Reconditioning Work Gloves

Question: Do you have any information on hazards involved in the re-use of so-called reconditioned or rewashed work gloves?

Answer: Where companies furnish gloves without charge to their employees and where large quantities of gloves are used, it is almost an economic necessity to have the gloves laundered and repaired.

In such cases the cost of the work gloves may run into thousands of dollars a year, and there is a corresponding saving of thousands of dollars by reconditioning and re-using gloves.

If the work is done by a reputable and dependable concern, the gloves, when returned, are just as safe and sanitary as new gloves.

Converting *Regulars* To Safety Spectacles

Question: Is it possible to treat ordinary spectacles to make safety glasses of them?

Answer: No doubt you are referring to the hardening of ordinary lenses to make safety glasses. The hardening should be done by an ex-

CLASSIFICATION	PREDOMINANT COLOR
F—Fire protection equipment	Red
D—Dangerous materials	Yellow (or orange)
S—Safe materials	Green (or the achromatic colors, white, black, gray, or aluminum)
(and when required) P—Protective materials	Bright blue

perienced company. The lenses can easily be over-hardened, which is just as hazardous as untreated lenses.

Safety glasses should conform to the American Standard Safety Code on eye protection. ASA quality lenses in a frame that is not a safety frame does not constitute approved eye protection.

Mounting approved type lenses in some of the more pleasing style frames is frequently desired by employees who want to glamorize their safety goggles. However, both the lenses *and* frames must meet the requirements of the code.

Alligator Shears

—From page 94

4.4, the report points out. The injury severity rate is 481, figured on the basis of 1,084 days lost.

The injury frequency rate is approximately the same as that of the shipbuilding industry and the steel industry. It is lower than that of many manufacturing industry groups, including glass, foundry, textile, and wholesale and retail trade.

The injury severity rate is lower than that for meat packing, railroad equipment, sheet metal products, textiles, and others.

One concern reported the operation of two shears for 20 years with no accidents.

While the 25 companies reported having the point of operation of the alligator shear guarded, most of these were guards covering the head of the shear or other devices such as bands surrounding the head in the open position. Some were holding clamps or forms for limiting the movement of rails or other standard shapes while being cut. Most of the other returns indicated that guards at the point of operation were not practical. In a few cases, guards had been tried but removed when they proved to be more of a hazard than a protective device.

The Institute report, an eight-page accordion-fold pamphlet, lists 22 safety suggestions for operators of alligator shears, and describes 34 ways in which accidents have occurred on shears. Purpose of both listings is to provide scrap processors with information which can be passed along to foremen and shear operators.

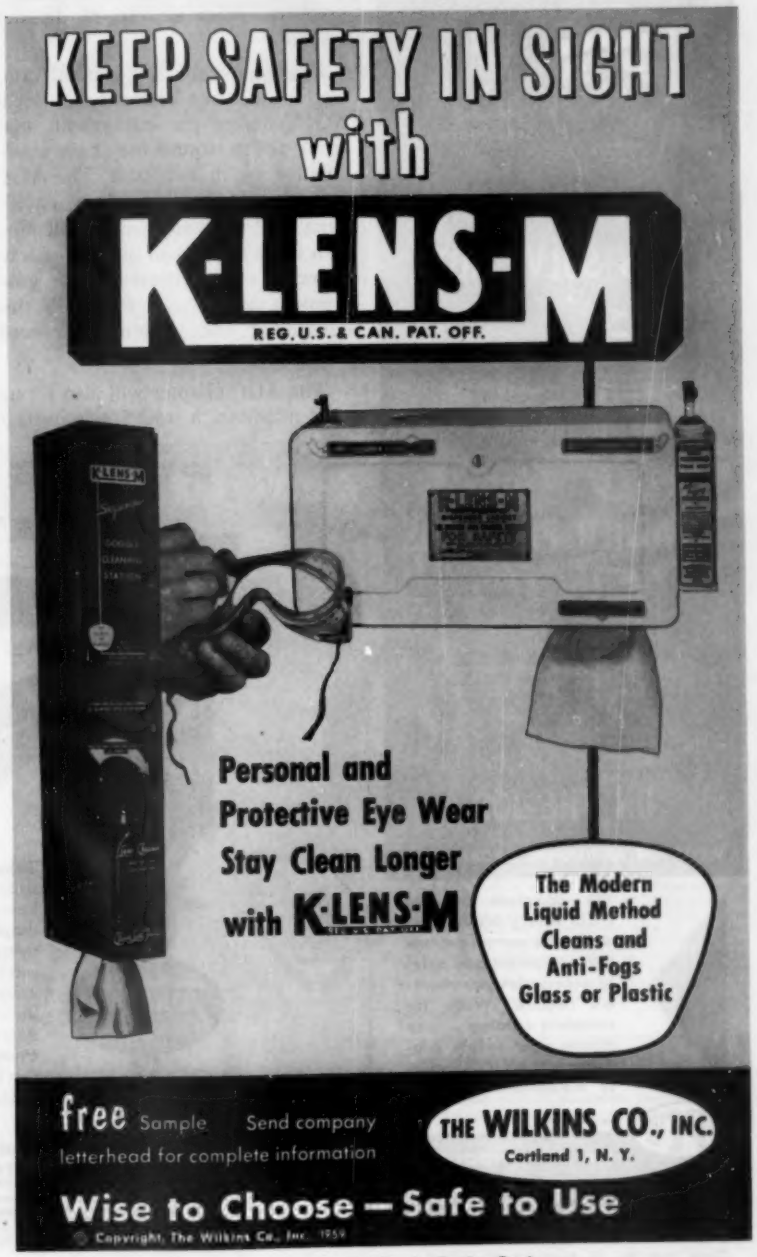
Copies of the Alligator Shear Hazard Survey may be obtained by writing to the Institue of Scrap Iron & Steel Inc., 1729 H St., N. W., Washington 6, D. C.

Contractors Map Disaster Plans

A disaster relief plan, in which the nation's construction industry can make equipment, personnel, and know-how available to local governments during disaster, has been outlined by The Associated General Contractors of America.

The AGC at its 40th Annual Convention in Miami Beach, Fla., announced that some of its 124 chapters and branches in the nation have begun to set up disaster relief organizations.

Public announcement in a local area will not be made until the plan is ready to operate in that area. "Plan Bulldozer" provides administrative and organizational guidelines which the association's autonomous



Circle Item No. 42—Reader Service Card

chapters and branches can follow.

A report on the plan was presented to the convention by Robert M. Hoover, Kansas City, Mo., chairman of the AGC Disaster Relief Committee. He said it was hoped the plan would be put into effect in the near future by all AGC chapters.

Mr. Hoover said the contractors' mission in disasters—natural or man-made—would be to furnish materials, equipment, and personnel "where, when, and as long as desired by whatever civil or military authority is in charge of disaster control."

The plan calls for general contractors to make known to the local AGC chapter the equipment, material, and personnel they have available for use in a disaster. The AGC chapter will keep records of equipment and personnel and will furnish these records in usable form to agencies of government. The government agency can then call this equipment and personnel as need dictates.

The AGC chapter will also set up and maintain a relief administrative staff to help with the proper deployment and use of the construction forces in major disasters.

Mr. Hoover said copies of the plan had been forwarded to federal civil defense officials, as well as agencies of the armed forces, and that response had been enthusiastic.

The plan has been endorsed by Maj. Gen. W. K. Wilson, Jr., deputy chief for construction, Army Engineers, and J. Roy Price, assistant director for resources and production in the Office of Civil and Defense Mobilization.

Mr. Hoover said that in recent months low-cost public liability and property damage insurance coverage for contractors participating in the disaster relief program had been developed by the Liberty Mutual Insurance Co. Such insurance is now available from the casualty insurance industry. He also said:

1. The plan will not be announced publicly in any area until it is ready to function there.

2. Services of an AGC disaster relief organization will be directly available to any legally constituted governmental authority acting to meet a disaster situation.

IPCO

Salt Tablets and Dispensers

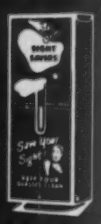
SUMMER SAFETY

Forehead Sweatbands

AIDS SOLVE HOT

Portable Drinking Fountain

WEATHER PROBLEMS



"Sight Saver" Cleaning Stations

ON THE JOB

WRITE FOR ADDITIONAL INFORMATION

The complete line of IPCO safety products includes the correct protective equipment and safety accessories your workers require. Write for complete catalog . . . or discuss your safety program with an IPCO safety equipment engineer.

IPCO Reg. U.S. Pat. Off. 9-903

SAFETY PRODUCTS

INDUSTRIAL PRODUCTS COMPANY

2850 N. Fourth Street • Phila. 33, Pa.

Circle Item No. 63—Reader Service Card

PUMPS most anything*

THAT POURS!

*A few exceptions. Write for approved list.

Take the risk and waste out of liquid transfer! This rugged Tokheim Hand Pump, with alternate diaphragms, handles most anything from diesel oil to acetates—safely, quickly, without spillage. Eliminates fire hazards and accidents, aids good housekeeping. Accelerates production, too. Pumps 20 gallons per 100 strokes. Get list above from your Tokheim dealer, or write direct today.

General Products Division

TOKHEIM CORPORATION

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901

1670 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reader of Canada, Ltd., 205 Yonge St., Toronto, Ont.

Circle Item No. 64—Reader Service Card

3. Any reputable contractor or other operator or owner of needed equipment may participate in the plan, regardless of membership in the AGC or any other association.

4. To the AGC, there is a disaster only when "public facilities cannot arrest further damage to human or property values, or re-establish an orderly physical environment."

5. Neither men nor equipment will move into a disaster area wihout a specific request by a public authority engaged in a disaster fight.

AGC officials said that in many disasters, such as the New England floods of a few years ago, contractors have done all they could to alleviate conditions, within the limitations imposed by lack of official coordination and absence of liability and property damage protection.

The new plan, they said, can provide the necessary coordination and insurance protection to permit rapid, organized action for disaster relief.

COMING EVENTS

in safety and related fields

May 4-6, Allentown, Bethlehem, Easton, Pa.

Thirty-second Annual Eastern Pennsylvania Safety Conference. Harold A. Seward, secretary-treasurer, Lehigh Valley Safety Council, 602 E. Third St., Bethlehem, Pa.

May 5-7, Niagara Falls, N. Y.

Nineteenth Western New York Safety Conference. (Hotel Niagara.) Clifford H. Seymour, executive secretary, Western New York Safety Conference, P.O. Box 315, Niagara Falls, N. Y.

May 7-8, Seattle, Wash.

Third Annual Northwest Industrial Safety Conference. (Olympic Hotel.) William A. Feathers, Seattle-King County Safety Council, 304 Spring St., Seattle 4, Wash.

May 7, 21-June 4, 11, Wisconsin

Spring Regional Conferences of Wisconsin Council of Safety, Inc. R.

NEW!

LIGHT—only 5½ ozs.
FITS ALL SIZES—either foot
SLIPS ON EASILY—stays put

DIAMOND METATARSAL FOOT PROTECTOR

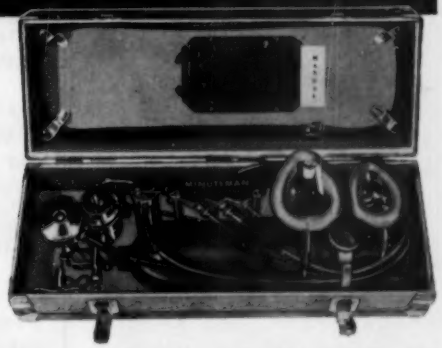
gives added safety, deflects falling objects

Worn with safety toe shoes, this new lightweight metatarsal foot protector affords full coverage of wearer's instep to guard against blows from falling objects. Comfortable to wear, ruggedly constructed, protector has tough outer shell of flame-resistant plastic over an aluminum plate sandwiched between two ½" layers of vinyl plastic. Steel spring slips on heel quickly, keeps unit firmly in place without restricting foot movement. Write for details and prices.

SAFETY FIRST SUPPLY COMPANY
425 Magee Street, Pittsburgh 19, Pa.
Circle Item No. 65—Reader Service Card

The STEPHENSON MINUTEMAN RESUSCITATOR

—ready willing and able



Instant action, easy operation, equal to every respiratory emergency—briefly describes the Stephenson Minuteman Resuscitator. It protects against ALL such hazards as smoke or fume suffocation, drowning, heart attack, electric shock, asthma, etc. Extremely compact—24½" x 8¾" x 7¾", under 30 pounds with tank—it can be rushed to the scene. Yet it combines the functions of resuscitator, inhalator, and aspirator. With an extra Midget attachment, it can resuscitate two people and aspirate a third simultaneously.

The Minuteman operates about 40 minutes with a D tank. Refills are inexpensive. Pressures are adjustable from Adult to Infant. This range is essential where the patient makes the first efforts to breathe after being overcome, also in chest injuries, and in working with small children. The instrument is easily regulated to mixtures from 100% oxygen to 50% oxygen, 50% nitrogen from the air. This feature is important in prolonged cases, avoiding the possibility of oxygen poisoning.

Send coupon for full information

STEPHENSON CORPORATION
RED BANK NEW JERSEY

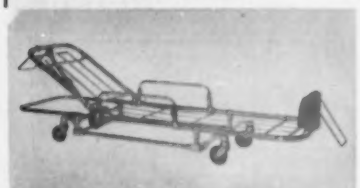
STEPHENSON CORPORATION
Red Bank, N. J.
( ) Please send Minuteman Folder G-5.
( ) Please send Bulletin: "The Breath of Life," explaining use of resuscitators.
NAME_____
TITLE_____
STREET_____
CITY_____ STATE_____

Circle Item No. 66—Reader Service Card

WASHINGTON
finest quality COTS and STRETCHERS for emergency use

• Washington's complete line of ambulance cots, stretchers, cot fasteners and other emergency equipment has featured the finest craftsmanship and highest quality in the industry, for over 33 years! First aid and rescue squads, fire departments, factory hospitals and first aid rooms have always depended on Washington for their complete needs. Washington "safety engineered" equipment is fully guaranteed —gives you the best for the same price as ordinary equipment.

MODEL 54-L ELEVATING COT—A Washington exclusive design. Elevates to full hospital bed height, yet lowers to only 9½" high! A perfect cot for vehicles with limited head room and overhead hanging stretchers. Here's all the advantages of an elevating cot — plus extra head room when lowered.



MODEL 21-L LOW COT—Only 8¼" high! A really low cot for cars with less head room or with overhanging stretchers. Another Washington EXCLUSIVE design, to meet changing car conditions.

MODEL 11 FOLDING STRETCHER—Lightweight and rugged, folds to 3¼" high. Ideal when an extra stretcher is needed in a hurry!

See your jobber or write for FREE catalog.

WASHINGTON
Products Company
Washington Court House, Ohio

Circle Item No. 67—Reader Service Card

W. Gillette, executive director, Wisconsin Council of Safety, Inc., West Wilson St., Room 234, Madison 2, Wis.

May 10-12, Baton Rouge, La.
Third Annual Industrial Mutual Aid Conference and Exhibit. (Bellemont Motor Hotel.) Contact Chief R. A. Bogan, chairman, Baton Rouge Mutual Aid System, Central Fire Station, P. O. Box 96, Baton Rouge, La.

May 12-14, Rochester, N. Y.
Second Triennial Genesee Valley Safety Conference and Exposition. (Manger Hotel.) William H. Keeler, secretary-treasurer, Genesee Valley Safety Conference, Inc., 55 St. Paul St., Rochester 4, N. Y.

May 18-19, Memphis, Tenn.
Ninth Annual Convention of National Water Safety Congress. Herbert E. Hudson, president, National Water Safety Congress, 314 Canterbury Dr., Knoxville, Tenn.

May 19-20, Philadelphia
Executive Committee, Public Utilities Section, National Safety Council. (Ben Franklin Hotel.) Paul Windsor, Bureau of Safety, 20 N. Wacker Dr., Chicago 6.

May 20-22, Toronto, Canada
Annual Meeting of Mines Accident Prevention Association of Ontario. (Royal York Hotel.) C. S. Gibson, Mines Accident Prevention Association of Ontario, 1399 Hammond St., North Bay, Ont.

May 21-22, Duluth, Minn.
Thirty-fifth Annual Conference of Lake Superior Mines Safety Council. (Hotel Duluth.) Allen D. Look, secretary, Lake Superior Mines Safety Council, 321 Federal Bldg., Duluth 2, Minn.

May 25-28, Philadelphia
The Design Engineering Show (Convention Hall.) Also, Fourth Annual Design Engineering Conference. Clapp & Poliak, Inc., 341 Madison Ave., New York 17.

May 27-28, Oklahoma City, Okla.
Eleventh Annual Oklahoma Safety Conference. Bob Eastman, manager, Oklahoma Safety Council, 1600 N.W. 23rd St., Oklahoma City, Okla.

June 11-13, White Sulphur Springs, W. Va.
Eighty-seventh Annual Meeting of Manufacturing Chemists' Association. (The Greenbrier.) Charles E. Wallace, Manufacturing Chemists' Association, Inc., 1825 Connecticut Ave., N.W., Washington 9, D. C.

June 16-17, Bridgeport, Conn.
Fourteenth Annual Connecticut Industrial Safety Conference. (University of Bridgeport.) Nell Short, 15 King St., Wallingford, Conn.

June 18-20, Gatlinburg, Tenn.
The Health Physics Society's Fourth Annual Meeting. G. T. Saunders, Kewaunee Mfg. Co., Adrian, Mich.

Sept. 22-24, New York City
Fourth Annual Industrial & Building Sanitation-Maintenance Show and Conference. (New York Trade Show Building and New Yorker Hotel.)

July 29-30, Brisbane, Australia
1959 National Industrial Safety Convention and Exhibition. (City Hall.) J. E. McDonnell, secretary, National Industrial Safety Convention and Exhibition, P.O. Box 27, Brisbane-North Quay, Queensland, Australia.

Oct. 19-23, Chicago
Forty-seventh National Safety Congress and Exposition. (Conrad-Hilton Hotel.) R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

THE POSITIVE
LADDER SAFETY DEVICE
LOCKS-IN-A-NOTCH

Prevents death and injuries from falling.

If climber starts to fall, device locks in a deep notch on carrier rail and limits fall to approximately 6 inches — distance between notches.

LOCKS AUTOMATICALLY and INSTANTLY—HOLDS SECURELY

Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 11 years. Approved by Safety Engineers and Govt. Agencies throughout country. Patented. Manufactured only by

SAFETY TOWER LADDER CO.
1024 Burbank Blvd., P.O. Box 1052
BURBANK, CALIFORNIA

Circle Item No. 68—Reader Service Card

Recognize Wives' Part In Safety Records

Wives of superintendents can give their husbands added energy in establishing safety records if they are included in the awards. So C. H. Leavell & Co., a construction and engineering firm at El Paso, Tex., recognizes their help when making awards.

Five years ago, at the suggestion of President Charles H. Leavell, safety was added to the topics for discussion at the annual superintendents' conference held by the company. Each superintendent participates in safety discussions at a business meeting held the first day of the two-day conference. Many helpful ideas are carried back to the projects.

Highlight of the meeting is the presentation of a bronze plaque to the superintendent who has established the best record.

This year the winner was Carl G. Marrs of El Paso for his crew's record during the construction of the Capehart housing project at Fort Bliss. The winner's wife usually receives an Easter outfit, but since Easter came in March this year, Mrs. Marrs was presented with a silver pitcher and tray.

Wives of three superintendents who won honorable mention awards received handbags.

The men are as proud as their superintendent when he takes home a plaque. The company's record has been improving steadily since 1955 and accident frequency and severity rates are now below the average for National Safety Council members in the construction industry.

Plant Guards Need A Nose for Hazards

For an efficient fire detector, a plant guard with keen sense of smell is hard to beat, says Pinkerton's National Detective Agency, which operates security installations for more than a thousand industrial plants and commercial establishments.

Smoke has distinctively characteristic odors, Pinkerton notes in urging security guards to use their noses as guides. With training, one can tell instantly whether that whiff of smoke is burning wood, paper, or rubber insulation, for example. This knowledge should speed the guard to the location of the smoke, often before an automatic device can sound an alarm.

Automatic detection and extinguishing devices are essential safeguards for life and property and the mechanical and human elements supplement each other in any well-planned system of fire protection.

Proper use of the nose on the security guard's first round of duty —his most important tour—can remove a large percentage of the causes of after-hours fires and prevent incipient blazes from reaching destructive proportions, says Pinkerton.

Careful observation by the guard on his first tour of duty sets the stage for most efficient use of the nose. Characteristic odors of plant, materials, and processes should be noted so any foreign smells can be singled out instantly. And the first round is also the time to spot the burning cigaret carelessly left behind, the blocked fire extinguisher, obstructed aisle, or other hazardous

Fire Prevention Signs

STOP FIRES BEFORE THEY START

Complete line includes approved signs for every purpose, indoors or outdoors. Two gauges of steel available, with baked enamel or porcelain enamel finish. Send today for catalog and prices.

STANDARD SIGNS
INCORPORATED
3190 EAST 65th STREET
CLEVELAND 27, OHIO

Circle Item No. 69—Reader Service Card

as smartly styled as if it came from a Fifth Avenue shop . . . and tops in eye protection too

that's the

NEW

Black Diamond

Quality

SAFETY SPECTACLE

by Wilkie GW

GW-50

Now you can answer your employees requests for really good looking safety glasses! They'll welcome the attractive, modern square shape of these fashion styled frames in two-tone black and crystal clear plastic . . . and **you** will welcome the absolute eye protection they provide! Here's complete protection—**plus** real good looks—**plus** economy!

This latest addition to the fine WILKIE line is available as follows:

Eye Sizes—44,46,48 MM

Bridge Sizes—20,22,24 MM plus 26 MM bridge in 48 eye

Lens Type—New square shaped S-7 lenses. No right or left.

Lens Color—Wilk-Safe Plano. 6.00 curve clear or Wilke-Glare green. May be ground to safety prescription

Temples—Spatula temples with 5-barrel hinge. Sizes 5¾, 6 and 6¼

Rocker Pads—If desired, use letter "R" after the number GW-50

Smart durable cases in green or black vinyl also available.

Dealer Inquiries Invited

WILKIE OPTICAL INC.
BARRINGTON, NEW JERSEY

Circle Item No. 70—Reader Service Card

conditions left by the previous shift.

Of the leading industrial fire hazards, Pinkerton lists from experience, though not necessarily in order:

1. Smoking, and tossing of live butts.

2. Matches, especially lighted ones near flammables.

3. Electric wiring: look for frayed cords, unauthorized appliances, hanging wires from nails and hooks.

4. Flammable liquids: particularly those with fumes heavier than air, such as benzene, naphtha, and gasoline, that can flow from an open container across the floor to an open flame and then flash back.

5. Loose rags, also packing materials that should be kept in covered metal containers.

6. Open flames: extinguish all flames when not in use, though keeping pilot lights burning.

7. Static electricity: rigid plant regulations are needed to protect against static sparks in susceptible areas. Fuel lines, for example, should be grounded before pumping flammable liquids.

8. Unattended machinery: a possible source of fire from overheating.

9. Paint and oil storage: these should be kept in raised drums fitted with hand-operated pumps—not with gravity faucets. The storeroom should be fitted with explosion-proof wiring and light globes.

Among conditions contributing to the spread of fire, Pinkerton lists these two:

1. Obstructed stairways and shafts: they should be kept clear and should be enclosed with fire-resistant partitions equipped with self-closing fire-retardant doors. These doors should never be blocked.

2. Blocked aisles: like stairways, they should be kept clear for ready exit.

Circle Item No. 71—Reader Service Card

Safe
STAMPING
Sure
POSITIONING
Stamp on rounds or flat with this impact-resistant rubber holder. Spring plunger retainer holds stamps firmly and allows the stamp to be changed quickly. Write for Prices and Bulletin 581.
Mecco
SAFETY
N-DUR-ALL
Set-Rite
STAMP HOLDER
A product of the Marking Device Industry
M. E. CUNNINGHAM CO.
1053 CHATEAU STREET, PITTSBURGH 33, PA.

Circle Item No. 72—Reader Service Card

Dilution Can Check Air Pollution

Just how much pollution the atmosphere can dilute into insignificant concentrations is a waste disposal problem of extreme interest to industry, according to H. E. Cramer, Massachusetts Institute of Technology, who addressed a session on air pollution at the recent Industrial Health Conference in Chicago.

The cost of removing all pollutants at the point of emission is often too great to be practical, he pointed out. Thus, efficient use of a natural waste disposal system is essential. The quantity of contaminants that can be discharged without contributing significantly to pollution is dependent upon reliable estimates of atmospheric dispersal capacity which varies widely according to wind direction and velocity, topographical features of the area, the temperature of the effluent at the time of emission and the air temperature.

There are times when a clear conscience is just a poor memory.

Safety Labeling Standards Needed

Safety labeling standards for hazardous substances, as seen by authorities in the chemical and petroleum industries, are discussed in *Standardization—What's in It for Me?*

This is the printed proceedings of the Ninth National Conference on Standards conducted in New York in November 1958 and recently published by the American Standards Association, sponsor of the conference.

Fields covered include evolution of cautionary labeling, the need for uniform labeling laws and regulations, health hazards as related to precautionary labeling, and a review of legal responsibilities.

The publication contains addresses by 50 speakers—authorities in government, science, the armed forces, and industry. These executives tell how they put standards to work for profits in their operations—nuclear power, electronics, the chemical and petroleum industries, machine tools, and photography. They explain why more standards are urgently needed to cut costs in purchasing, design, and engineering.

The proceedings has 128 pages with illustrations. It is available from the American Standards Association, 70 East 45th St., New York 17, at $4.50 per copy.

Attack Accident Costs In Road Building

The Michigan State Highway Department has launched a campaign designed to reduce the cost of accidents to highway construction workers by an estimated $2.5 million in the next few years.

Highway Commissioner John C. Mackie said that, starting in June, highway construction bid proposals will spell out safety precautions to be required of contractors during performance of construction work for the state.

"These requirements were not previously listed," Mackie said. "The contractor will be required to comply, and his future pre-qualification or bidding privileges will be determined, in part, on how well he complies with the new safety program.

"The program has been approved by the Highway Department's Industry Committee and has the general approval of the highway contractors."

The eight-man Industry Committee serves as an advisory board to the Highway Commissioner on the highway industry's views in the state road-building program.

"Our figures show highway construction accidents, aside from human suffering involved, cost an average of $31,000 per one million dollars worth of construction awards," Mackie said. "On this basis Michigan's five-year $800,000,000 construction-award program currently under way could save about $2½ million if accident rates were reduced by even one-tenth. Accident reduction would soon be reflected in lower construction bids."

The program, under the direction of E. D. Suino, special assistant

Circle Item No. 73—Reader Service Card

SAFETY SAM says:

"I always use Dockson GOGGLES they give me more protection and comfort!"

MODEL 96 GOGGLES

MODEL 40 SPECTACLES

MODEL 492 GOGGLES

There is a Dockson goggle or spectacle to meet any requirement. Low cost, high quality equipment, "Built for better protection." Scientifically designed for safety with maximum comfort. Many outstanding features and careful construction usually found only in higher priced equipment. You'll like 'em!

Write for our Head & Eye Protection Catalog and name of your distributor.

3839 Wabash Dockson CORPORATION Detroit 8, Mich.

THE KENNEDY "VICTORY" CAP

designed for GREATER SAFETY for all Industrial Jobs!

Better protection for all the hair all the time because the full, wide, snood-type back of the Kennedy "Victory" Cap permits complete coverage. Easy to put on. Adjustible to all head sizes. 11 styles to choose from.

Manufacturers and distributors of a complete line of safety clothing and equipment.
Write Dept. N-5 for information regarding your needs.

K-I KENNEDY-INGALLS, INC.
3735 NORTH 35TH ST., MILWAUKEE 16, WISCONSIN

Circle Item No. 74—Reader Service Card

Circle Item No. 75—Reader Service Card

INSTANT RELIEF FROM ITCHING

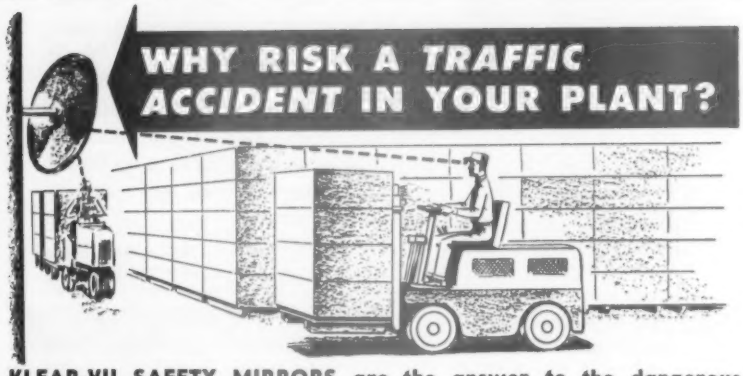
For Poison Ivy & Oak . . . Bullard's Formula

Odorless, greaseless, safe to use on any part of the body—Bullard's Formula brings immediate relief to Poison Oak and Ivy sufferers. It forms a protective film over irritated skin areas, preventing spreading and checking weeping lesions.

Catalog #R29A — 1 oz. plastic vial. #R29 — Three 1 oz. plastic vials in double unit pack.

Write for Data Sheet #100—"Hectorite in Bullard's Formula."

E. D. BULLARD COMPANY
SAUSALITO, CALIFORNIA



WHY RISK A *TRAFFIC ACCIDENT* IN YOUR PLANT?

KLEAR-VU SAFETY MIRRORS are the answer to the dangerous blind corner problem in your plant or warehouse. They are also adaptable for outdoor use in your parking lot, loading dock area or other points where traffic converges.

Mounted at cross aisle intersections, entrances and exits at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect oncoming intersection traffic to both power truck operators and pedestrians.

Style	No.	Dimensions
Circular Convex Glass	120	12" dia.
Circular Convex Glass	180	18" dia.
Circular Convex Glass	240	24" dia.
Circular Convex Glass	300M.R.	30" dia.
Circular Convex Glass	360M.R.	36" dia.
Flat Glass Rectangular	918	9"x18"
Flat Glass Rectangular	1640	16"x24"

M.R. indicates metal rim.

Available in either convex or flat glass styles, the mirrors are easily installed and quickly adjustable to any desired angle.

Special sizes made to order. Polished flat metal mirrors available.

LESTER L. BROSSARD CO.
540 N. MICHIGAN AVE., CHICAGO 11, ILL.

Write for Bulletin.

Circle Item No. 76—Reader Service Card

to the director of engineering, will develop a manual of general safety requirements to be included in the department's standard specifications. It will require contractors to keep detailed records of all accidents during construction and furnish copies to the department. It will also require a contractor, after he has been awarded a contract, to submit for approval a construction safety program proposal covering the project he will build.

Hoffman Award Won by James Stannard Baker

For "outstanding professional service in highway safety," the second annual Paul Gray Hoffman award has gone to James Stannard Baker, director of research and development at Northwestern University's Traffic Institute.

The silver plaque recognizes Mr. Baker's nearly 30 years of service, largely with the National Safety Council and the Institute. He pioneered some of today's widely-used traffic control measures, initiated scientific investigations of accidents and selective enforcement, and established basic driver licensing principles. He is also credited with an important part in developing today's techniques of safety organization and education.

Mr. Hoffman, who made the presentation, is a former automobile manufacturer. He was first president and chairman of the Automotive Safety Foundation, which administers the award.

Judges were Gen. Alfred M. Gruenther, American Red Cross president; Dr. John A. Hannah, Michigan State University president; Mrs. Raymond B. Sayre, women's group chairman, President's Committee for Traffic Safety; Herschel D. Newsom, master of the National Grange; and W. Earl Hall, editor, the Mason City (Iowa) *Globe-Gazette*.

Allied Chemical Reveals Odor Survey Results

Allied Chemical Corporation recently released the results of some extensive nose-searching in the area of its Frankford Works plant in Philadelphia.

The Frankford plant, operated by the company's Plastics and Coal Chemicals Division, is one of the largest coal-tar chemical installations in the world.

Company officials said the survey was undertaken to determine the relative contribution of the plant to air pollution odor in the surrounding area.

"All too often the accusing finger points toward industry, usually the plant that's closest, and the public forgets the contribution it makes to air pollution," said A. N. Heller, Plastics and Coal Chemicals Division air pollution control expert.

Mr. Heller said the survey results unexpectedly showed the primary contributors to air pollution even in the area adjacent to the Frankford Works to be non-industrial sources.

Mr. Heller said the purpose of the survey was not to excuse the plant from its fair share of the odor pollution, but was to stress the importance of defining the relative contribution of a plant's emissions where there are many sources.

Since 1950, the Frankford Works has installed major air pollution abatement equipment and odor control devices such as catalytic incinerators, higher stack heights, and revised process techniques.

NSC Committee Probes Accidents with Toys

The extent and seriousness of accidents involving toys are to be studied by a newly created committee of the National Safety Council's Home Conference—a Toy Safety Committee.

Organizations represented on the committee include the U. S. Public Health Service, Girl Scouts of the U. S. A., American Medical Assn., U. S. Children's Bureau, American Public Health Assn., Metropolitan Life Insurance Co., Pennsylvania State Health Dept., American Academy of Pediatrics, Equitable Life Assurance Society, and the National Safety Council.

Committee objectives are:

1. Continual investigation of the kind of toy accidents occurring in the United States.

2. Cooperation with toy manufacturers in elimination of unsafe toys.

3. Development and dissemina-

Circle Item No. 77—Reader Service Card

FOOT-TOE-LEG
Protection by "Sankey"
(left) Improved FOOT GUARD with full RUBBER SOLE

FOOT GUARDS consist essentially of a metal shield to be worn over the shoe whenever the foot is in danger of being either crushed or cut. The metal shield is designed to furnish a maximum amount of protection to the entire foot—not merely to the toes alone, but also to the instep—against hazards from falling, rolling or flying objects, or from accidental tool blows.

TOE GUARD ➔ fills a demand for toe protection in occupations where hazards injurious to toes exist. They fit any shoe, afford maximum toe protection, and like the foot guards do not encase the toe to the discomfort of the worker.

Shin & Knee-Shin Guard

- Absolute freedom of leg motion, utmost protection and comfort come with the leg-contour shaped "Sankey" fibre shin guard (right).
- Fibre knee-shin guard (far right) provides flexible knee movement on jobs with both knee and shin hazards.

For more information write today

ELLWOOD SAFETY APPLIANCE CO.
225 SIXTH ST. — NSC ELLWOOD CITY, PA.

Quality cans
EAGLE SAFETY CANS

The approved *safe* way to handle flammable liquids • Listed by Underwriters Laboratories • Approved by Factory Mutual • Uncommonly rugged for hard use • "The Complete Line"

STYLE I STORAGE CAN
1 qt., 2 qt., 1 gal. sizes with trigger-grip handle . . . 2½ gal., 5 gal. sizes with free-swing handle . . . valve operated by handle gives positive pouring control . . . no waste, no splash, no spill . . . strong quality construction.
ORDER FROM YOUR SUPPLIER

STYLE II FILLER-DISPENSER CAN
2½ gal., 5 gal. sizes with free-swing handle . . . flexible spout for easy pouring . . . body and breast each seamless drawn from heavy 24-gauge steel . . . steel hoop reinforces bottom . . . fire screens in pour spout and filler opening for double fire protection.

Write for free catalog showing Complete Eagle Line

MANUFACTURING CO. Wellsburg, W.Va.
Serving Industry Since 1894

Circle Item No. 78—Reader Service Card

tion of information on safe toy usage.

The committee established a clearinghouse for toy safety within the National Safety Council's Home Division. Individuals and local, state, and national organizations are urged to forward information on unsafe toys and toy accidents to the clearinghouse.

Complaints will be investigated and forwarded to toy manufacturers through their national association.

Industrial Hygiene Course Offered in June

A one-week course, "Industrial Hygiene for Safety Engineers," will be conducted at Council headquarters during the week of June 15-19.

Instructors will be members of the Council staff and a group of industrial hygienists from the Chicago area. Text and reference material will be furnished. There will be a laboratory visit for approximately one-half day during which time students will be given an opportunity to practice with instruments.

The class will be limited in size so there can be free discussion. Tuition will be $100, which covers the cost of reference materials.

Subjects for the course will be: Fundamentals of Control, Respirators and Gas Masks, Exhaust Ventilation, Dermatitis, Noise Control, Dusts Other than Metals, Temperature, Radiation, Solvents, Gases, and Instrumentation.

For information and application forms, write to Glenn Griffin, Director of Industrial Training, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Circle Item No. 79—Reader Service Card

POWERFUL NEW PLUNGER CLEARS
CLOGGED TOILETS
in a jiffy!

Clear messy, stuffed toilets
Cut maintenance costs with
TOILAFLEX
Toilet ALL-ANGLE Plunger

Ordinary plungers don't seat properly. They permit compressed air and water to splash back. Thus you not only have a mess, but you lose the very pressure you need to clear the obstruction.

With "TOILAFLEX", expressly designed for toilets, no air or water can escape. The full pressure plows through the clogging mass and swishes it down. Can't miss!

Get a "TOILAFLEX" for your home too. Positive insurance against stuffed toilet.

- Double-size cup, double-pressure
- Tapered tail gives air-tight fit
- Designed to flex at any angle
- Centers itself, can't skid around

$2.65 Fully Guaranteed

Order from your Supplier of Hardware or Janitor Supplies

THE STEVENS-BURT CO., NEW BRUNSWICK, N. J.
A Division of The Water Master Company

Circle Item No. 80—Reader Service Card

SAFE!

CLEAN AUTOMOTIVE & INDUSTRIAL PARTS
3 WAYS!

1. Continuous Flow Hose
2. Air Agitated Soaking Tank
3. "Super Power" Jet Air Gun

A must in every service shop!

Kleerflo SUPER
CLEANMASTER
MODEL 50

Write for Literature:

Model 30 (less Jet Air Gun) also available

America's Foremost Producer of Parts Cleaning Equipment
PRACTICAL MFG. CO.
DEPT. A-5 2840 5th Ave. S. Minneapolis 8, Minn.

Announce Program for Air Pollution Meeting

Research findings on air pollution topics ranging from automobile exhausts to atmospheric monitoring will be presented June 22 through 26 when Los Angeles hosts the 52nd annual meeting of the Air Pollution Control Association.

S. Smith Griswold, air pollution control officer for Los Angeles County, has been appointed conference chairman for the meeting which will bring together an anticipated 1,000 experts in this field from all parts of the United States, Canada and Mexico.

Approximately 75 technical papers will be presented during the conference's 15 sessions, making it "one of the most significant air pollution events of the year," Griswold said.

Among the titles of sessions scheduled are "Flue Fed Incinerators," "Organic Solvents," "Combustion of Fuels," "Radiological Aspects of Air Pollution," "Simple Techniques Used in Solving Everyday Air Pollution Problems," "Health Aspects of Air Pollution," "Zoning from an Air Pollution Point of View," "Automobile Exhausts" and "Atmospheric Monitoring."

The Air Pollution Control Association, founded in 1907, is a national professional affiliation of engineers, research scientists, government administrators and industrialists who have a common interest in air pollution and its control.

New Light on Industrial Poisons

Two scientists at the University of Michigan Medical Center have shed new light on the mechanism of chemical poisonings.

Deane N. Calvert and Theodore M. Brody reported their 2½-year study of the toxic effects of carbon tetrachloride to the annual meeting of the Federation of American Societies for Experimental Biology.

Their work may lead to improved treatment for persons poisoned by a wide group of industrial chemicals known as chlorinated hydrocarbons.

Calvert and Brody found these chemicals are not poisonous but trigger a massive, prolonged discharge of adrenalin in the body. The resulting upset of the system can prove fatal.

Adrenalin is the *emergency* hormone released by the body to sharpen natural defenses during stress, fear, or flight. An overload can severely damage the liver.

The two researchers, members of the Pharmacology Department in the U. M. Medical School, have traced a definite chain reaction. Carbon tetrachloride, they found, affects the brain, which then orders a wholesale discharge of adrenalin. This activity breaks down the body's stored fat, fills the bloodstream with fatty acids, and impairs the blood flow to the liver so that organ cannot function normally. If this process goes uncorrected, the poisoning will prove fatal.

The researchers discovered they could interrupt this chain reaction by blocking signals from the brain. When that is done, test animals show no ill effects from near-fatal doses of carbon tetrachloride.

Announce National First-Aid Contest

The 1959 National First-Aid and Mine Rescue Contest will be held at the Buffalo Memorial Auditorium, Buffalo, N. Y., October 5, 6 and 7, according to Marling J. Ankeny, director of the U. S. Bureau of Mines.

The contest is held every two years under the sponsorship of the Bureau and the Joseph A. Holmes Safety Association and in cooperation with the National Coal Association, United Mine Workers of America, state mining departments, local mining institutes, and coal operators' associations.

Leading first-aid and mine-rescue teams from various mining areas compete for congressional medallions and other awards. Louis W. Schuler, United Mine Workers of America, was renamed general vice-chairman of the meet. He assists Director Ankeny who is general chairman.

The Statler-Hilton Hotel in Buffalo will be contest headquarters and scene of an awards banquet the evening of October 7.

The 1957 contest, held at Louisville, Ky., saw eight mine-rescue teams and 49 first-aid teams competing for national honors.

Circle Item No. 81—Reader Service Card

NEW! Uniform Pipe Identification System

Makes it easy and economical to standardize pipe marking

Free Planning Kit

- Shows you *how and where* to mark utility, process, and supply lines.
- Shows you how to *estimate costs.*
- Tells you how to *write specifications.*
- Simplified check list *figures your marking needs.*
- You can *compare actual costs* for painting and stenciling vs. the Brady System.
- *Planning Schedule* helps install marking system fast at lowest cost.
- You get *working samples* for testing.

If marking pipes is your responsibility, write for this valuable Planning Kit on your letterhead today.

W. H. Brady Co., 783 W. Glendale Ave., Milwaukee 12, Wis.

FOR SAFETY'S SAKE . . .

DAV-SON FLASHING SAFETY DIRECTOR

With Amazing Changeable Letter Slide Out Panel

Bright traffic light red, green spots flash "SAFETY FIRST." Color, motion, light bring eyes directly to message. Only DAV-SON has changeable letter design with removable panel for quick changes, peak attention. 98 red 3½" and 250 black 1⅞" acetate letters in compartment box incl. Size 18½x29x6. Complete with lamp and U.L. Cord. **$39.75**

Insist on genuine self-sealing cork back bulletin boards—hardwood frame. Sizes 12x18 and larger. With or without glass doors. **$4.15** up. Also with metal frames for inside or outside use.

A Dav-Son board for every purpose. Over 100 different sizes and styles to choose from. *Dealer Inquiries Invited.*

If your dealer doesn't have the Dav-Son board you need write direct.

WRITE TODAY for big FREE 1959 Catalog

A. C. DAVENPORT & SON, INC., Dept. NSN
311 N. DESPLAINES STREET • CHICAGO 6, ILLINOIS

Circle Item No. 82—Reader Service Card

90% of overhead servicing can be done faster and safer with a HI-REACH TELESCOPER

Model PUL (illustrated)
Lift 10'9"—$370.00
Lift 15'0"—$400.00

Model LB
Lifts 20' to 40'
$1510.00 up

Custom built Hi-Reach Telescopers up to 100 ft.
Write for complete catalogue

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4518 West Lake Street, Chicago 24, Illinois

Circle Item No. 83—Reader Service Card

The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

FRANK E. ALLEN, lineman, Rural Electric Cooperative, Inc., Lindsay, Okla.—electric shock.

CLIFFORD R. BRICKER, lineman, Hydro Electric Commission, Toronto Township, Ont., Canada—electric shock.

HENRY S. FLEMING, JR., TV repairman, Mac's TV Service, Morganton, N. C.—drowning.

J. H. GERKEN, water flood operator, Shell Oil Company, Tulsa, Okla.—gas asphyxiation.

LESLIE M. GRAY, SR., construction superintendent, The Bell Telephone Company of Pennsylvania, Philadelphia—shock from lightning.

KENNETH K. KELCH, installer-repairman, The Cincinnati and Suburban Bell Telephone Company, Cincinnati, Ohio—drowning.

J. E. MCCOMBS, patrolman, Duval County, Fla.—electric shock.

EDWIN L. MCNEILL, roustabout, The Ibex Company, Breckenridge, Texas—electric shock.

DEWANE ROBERTSON, lineman, Grundy Electric Cooperative, Inc., Trenton, Mo.—electric shock. Certificate of Assistance to Robert Burkeyvile.

CARLOS AUGUSTINE RODRIGUEZ, headwatch engineer, Tampa, Fla., Electric Company—gas asphyxiation.

JERRY ROTH, foreman, Milwaukee Gas Light Company—drowning.

MRS. BINA RYKER, secretary, International Harvester Company, Indianapolis, Ind.—drowning.

BETTY L. TOBIN, switchroom helper, Michigan Bell Telephone Company, Detroit, Mich. — shock caused by allergic reaction.

DALTON L. TRUAX, test deskman, Southern Bell Telephone and Telegraph Company, New Orleans, La. —electric shock.

T. HUNT VADEN, vice-president, The Southern Company, Birmingham, Ala.—drowning. Certificates of Assistance to LINTON VADEN CLARKE and ESTELLE P. HAMILTON.

CLETUS VESTERFELT, employee, Picton, Ont., Canada, Public Utilities Commission—drowning. Certificates of Assistance to G. H. CABLE and RONALD CABLE.

JOHN J. WILSON, head roustabout, The Texas Company, Houston, Tex.—drowning.

LITE-GUARD
FLASHER BARRICADE
High Visibility 7 inch Flashers
One and Two Light Models
Retractable Legs

MORE USEFUL BATTERY LIFE WITH EXCLUSIVE ADJUSTA—FLASHRATE control
SAFE—DEPENDABLE—LOW COST

Park Industries, Inc.
Department E
MELVINDALE, MICHIGAN
Territories available
Write for Free Literature

Circle Item No. 84—Reader Service Card

Keeping Safe at Safety Meetings

MUCH has been written about safety measures in public places such as theaters, night clubs, and restaurants. Less has been said about a subject just as important and just as potentially hazardous.

Whether it's a sales meeting, safety rally, or a convention banquet, the plant safety man should have an interest in checking the possibilities for fire and accident. Here are some specific suggestions which will be especially helpful at meetings in hotels:

Check with your insurance carrier to see if there is a need for an endorsement to the existing policy covering these meetings.

It is advisable to request that your insurance carrier's safety engineer assist you in inspecting the premises under consideration.

The following list has been compiled based on several engineers' experiences. This may be a start for you:

1. Check with local code or look for hotel notice upon the wall relative to the room capacity.

2. Check exit lights to see that they are illuminated properly.

3. Push against panic bars of fire doors to see that they are mechanically perfect and that the doors open properly.

4. Check hallway or landing in fire door area to see that it is free from storage and accumulations. (Hotels are guilty of this violation in storing extra chairs and tables on stairwells and stairway areas in fire door areas.)

5. In meeting rooms where the fire exit is through a window to an outside fire escape, check to see that this window is not blocked with wire meshing. (Some buildings cover the window adjoining the fire escape with wire mesh to prevent people entering from the fire escape.)

6. If fire escape is to be used, make an over-all visual inspection to see that the landings and stairways are not blocked with accumulations. (In small meeting places and small auditoriums sometimes the fire escape is blocked with flower boxes, mops, old radiators, and other accumulations.)

7. If outside fire escape must be used in case of an emergency, have the building maintenance man check the last movable section by standing upon it so it tilts down to the street level. (Many times the last movable section has defects in the counterweights so the section is stuck, and often it is tied up with wire to prevent outsiders from pulling down and gaining entrance.)

8. Check, operate, and note location of wall switches that control lighting and room circuits. (This is for convenience in turning light on and off, if projection equipment is being used for demonstrations or plays, and for general emergency conditions.)

9. If movable seats, benches, or tables are set up, check to see that proper clearance is allowed for aisle space for exit in case of emergency.

10. If raised platforms are provided by the hotel for the speaker or stage area, check to see that they are nailed or fastened together so they won't part.

11. If carpeting is used on the stage area, check to see if all edges

Circle Item No. 85—Reader Service Card

Problem solving at Huntington Laboratories

How red hands stopped infection from TNT

In a plant where TNT and tetryl are handled, workers developed skin infections and were sick from the poisonous effect of these chemicals. Absenteeism was high.

A Huntington representative suggested the problem be sent to the Huntington Laboratories. Result? An indicator liquid soap that turns red when TNT or tetryl is present on the skin. So now workers can be sure of getting all the chemicals off.

This is just one example of how Huntington helps industry solve problems. Do you have a sanitation or maintenance problem? We'd like to take a crack at it. We've had our fair share of successes in our 42 years.

Just call the Huntington representative nearest you, or write us direct.

Ask for the Man Behind the Drum ... your Huntington representative.

HUNTINGTON LABORATORIES
HUNTINGTON, INDIANA
Philadelphia 35, Pennsylvania • Toronto 2, Ontario

HUNTINGTON
...where research leads to better products

Circle Item No. 86—Reader Service Card

are tacked down and that the rugs won't slide, causing a tripping and falling hazard.

12. If extension cords are used, see that they are trained along molding or edge of platforms so they won't be out in the meeting area or across aisles and other walkway areas causing tripping hazards.

13. If demonstrations or talks are to be given using fire or flammable substances, a request should be made to the hotel or to the local fire station that a qualified fireman be on duty at the demonstration in case of an emergency.

14. When electrical equipment is to be used for demonstrations, its load capacities should be given to the house electrician to prevent overload on the normal lighting system and circuit breaker interference.

15. When electrical equipment is used, the type of house current should be recognized before plugging in equipment. (Many times alternating current equipment involving transformers is plugged into hotels or meeting rooms that contain direct current outlets which cause immediate surges of high current, fire and explosion from direct current running through alternating equipment.)

16. When ticket booths or tables are used, they should be located safely away from doors in the hallway. This prevents blocking of the main entrance to the hallways and tends to eliminate noise and interference to the meeting.

17. In small meeting rooms where natural ventilation is depended upon, a careful watch should be made to see that people do not sit on ledges at open windows or store hats, overcoats, and brief cases which might be pushed out and fall upon pedestrians below.

18. Fire alarm boxes and extinguishers should be located in case of an emergency. The nearest telephone should be located and the hotel doctor known in the event of emergencies within the audience (heart attacks, fainting, etc.).

19. If smoking is allowed, receptacles should be provided.

20. For comfort purposes the ventilation of the hall should be checked before the meeting. If possible, the building engineer should recheck the rooms filled to capacity for ventilation adjustments and control.

21. Meeting rooms containing a balcony should be checked very carefully against overloading, and the people should be watched to prevent overhanging, overreaching, or placing material on ledges where it might fall upon the audience below.

22. Balconies with steep elevations or sudden drops should have aisle lights to illuminate these conditions.

23. Check meeting rooms that need supporting structures for curtains and demonstrations, and consult the building engineer to see what load can be carried. (Avoid tying onto balcony railings, electrical fixture brackets, conduit lines, etc.).

Circle Item No. 87—Reader Service Card

SAFE-HI LADDER LASH NEW STEP UP IN CLIMBING SAFETY . . .

Can Be Used on Horizontal or Vertical Poles or Pipes!

Knotty ladder ropes have finally come to the proverbial "end of their rope" since the invention of Ladder Lash, latest product of Rose Mfg. Co. The Safe-Hi Ladder Lash, a parachute web strap, solidly anchors ladders for high-climbing workmen, ending the hazards of wobbling, tottering ladders. Ladder Lash will anchor on poles up to 20" in diameter making it ideal for utility pole use as well as any other horizontal or vertical poles or pipes.

No Groping in Mid-Air

Ladder Lash does away with top-rung confusion. In one quick motion the strap is wrapped around any horizontal or vertical pole, the forged steel snap is clipped into the swivel eye bolt and the strap is pulled through the adjustment slide until taut. A simple device, Ladder Lash is easily attached to any ladder. Workmen are sure to like the dependable safety features of the Safe-Hi Ladder Lash.

Safe-Hi Pole Grip Adds Extra Safety Feature

Use Ladder Lash and Pole Grip together for the extra measure of safety. Safe-Hi Pole Grip, already favored by "Higher-up's," is made of 4-ply web strap 26"x1¾" wide with a center section of neoprene tread for super gripping strength on vertical poles.

#632—Pole Grip **#645—Ladder Lash**

Safe-Hi **ROSE MANUFACTURING COMPANY**
2700 W. Barberry Pl., Denver 4, Colo.

Circle Item No. 88—Reader Service Card

NO-FOG®
(Trade Mark Registered U.S. Pat. Office)
Lens Cleaning Tissues
Use Just Water, No Chemicals Needed

This new, chemically treated tissue is low in price and does away with expensive chemical sprays. Cleans and no-fogs goggles, eyeglasses and welding lenses with the addition of water only in one operation.
Tissues can be used several times.
Contact your nearest jobber or write us direct for samples and literature on your company's letterhead.

4 Boxes—100 Tissues Each
Size 4½" x 10¾".....$7.00
Dispenser Bracket for tissue.....75c ea.
Dispenser Bracket for water.....65c ea.
Water bottle with Spray Pump.....35c ea.

Distributors wanted. Write for proposition.

CARHOFF COMPANY
11706 Kinsman Ave. • Cleveland 20, Ohio

When You Use Insecticides

Insecticides which will kill pests may also be toxic to humans, pets, and domestic animals. A few are relatively harmless in this regard, but most are hazardous to varying degrees. Always follow these precautions:

1. Read and follow supplier's directions carefully.
2. Use at proper concentration.
3. Use the least toxic material that will serve the intended purpose.
4. Take adequate precautions to protect the individuals applying the insecticide.
5. Always be sure insecticide containers are properly identified and labeled.
6. Use each chemical for the purpose for which it is intended and according to the restrictions placed upon it.
7. Follow the advice of the professional pest control operator and let him perform those portions of the pest control requirements which are more hazardous, more complex, or which he is better equipped to handle more economically and more effectively.
8. Use in such a way as to minimize danger of property damage to walls, floors, and fixtures.

An insecticide which is effective against one type of insect may be ineffective against another type. Adding to the complexity and ever-changing nature of the control problem is the fact that insects acquire a strong resistance or immunity to insecticides which were formerly most effective against them.

Film Teaches Rescue Breathing Techniques

Mouth-to-mouth breathing, known to man since Biblical days, has received new recognition for saving lives as a result of nearly ten years of extensive research sponsored by the Army to improve the treatment of nerve gas casualties.

Rescue breathing, promptly and properly applied, would probably save many lives of the approximately 11,000 victims of suffocation who die each year in the United States, according to anesthesiologists. Official U. S. statistics show that this death roll results from drowning, choking, electric shocks, gas asphyxiation, heart attacks, drugs, and chest injury, among other causes.

Rescue Breathing, a new safety film designed to teach the techniques of rescue breathing (mouth-to-mouth or mouth-to-nose) now is available from American Film Producers in New York.

The experiments conducted by Dr. James O. Elam, director of the Department of Anesthesiology, Roswell Park Memorial Institute, Buffalo, N. Y., form the basis of this film.

Rescue Breathing was shot in color to show the cyanotic blue color of victims of suffocation and the flush pink which brightens the skin upon successful revival. However, black and white prints are available. The completed production has a running time of approximately 21½ minutes, and is being distributed by American Film Producers who edited, added animation, and otherwise completed the training film.

Photography included re-enactments of experiments utilizing physician volunteers who permitted

Circle Card No. 89—Reader Service Card

Take the hazard out of Floor Maintenance

WITH HOLT EXPLOSION PROOF COMMANDER

Model EPC16D, showing handle in space-saving stowaway position.

Holt Commander is designed expressly for safe maintenance of floors in oil refineries, atomic research plants, powder factories, and other hazardous industries. There's no outside wiring, Entire unit, from brush to handgrip, is constructed, sealed and safety-tested to prevent sparks and static that might ignite gas, dust, fumes or vapors. Static eliminator wire in brush, a Holt exclusive, even prevents shocks to operator.

With this one machine and Holt Quick-Change Attachments you do a complete floor maintenance job — polish, wax, buff, scrub, etc. Dual handles give operator better control; reduce fatigue. Made in 16 and 20" sizes. For full story write now to Dept. W-5.

32

Sales and Service Centers in Major Cities

HOLT MANUFACTURING CO.
BETTER FLOOR MACHINES FOR MORE THAN 30 YEARS

669 - 20th St., Oakland 12, Calif., or 272 Badger Ave., Newark 8, N. J.

"PROTECT YOUR CLIMBERS"

With Johnson All Rubber Ankle Action Dielectric Ladder Shoes. The Choice of Ladder Climbers in all parts of the world.

WORK SAFELY ALL-WAYS

FOR EXTENSION LADDERS

Our Step Ladder Shoes are popular with maintenance men in homes, office buildings, schools, hospitals and etc. Dealers in all principal cities. Ask your Safety Supply Dealer or send direct. Your order will be shipped promptly.

FOR STEP LADDERS

Johnson Ladder Shoe Inc. **Eau Claire, Wisconsin**

Circle Item No. 90—Reader Service Card

SAFEGUARDS
for ANY
Punch Press Safety Program

Press-mounted Pullouts for Safety & High Production

Pre-fab. Die Enclosure Material for a quick low-priced Die Enclosure Program

Traveling Barriers for Automatic Dual Protection

Whatever your preference in press guards, let Safeguard help solve your problems.

For information on—

1. Pullout Guards
2. Electronic Monitors (Insures the use of pullout guards)
3. Individual Die Enclosures
4. Adjustable Die Enclosures
5. Fixed Cable Guards (For no hands in the die feeding without enclosures)
6. Traveling Barrier Guards
7. Riveter Guards

Write or call today.

SAFEGUARD Mfg. Co.

Woodbury, Conn. Congress 3-3385

Circle Item No. 91—Reader Service Card

themselves to be drugged with curare to simulate unconsciousness and inability to breathe. Also re-enacted for the film were emergency situations which dramatized the need for learning the techniques of rescue breathing and showed the simple steps to be followed for successful revival of the victim in each situation.

The film has been officially approved and endorsed as a teaching film by the New York Society of Anesthesiologists and the American Society of Anesthesiologists.

How To Be Healthy Though an Executive

Care and feeding of the business executive is replacing child-rearing as the nation's most publicized health problem, according to Harry Levinson, Ph.D., the Menninger Foundation, Topeka, Kan.

Dr. Levinson observed in a paper presented before the Industrial Health Conference April 28 in Chicago that the business executive appears to be the most troubled person in the world. The public has heard so much about executive heart attacks, executive ulcers, and other horrific executive maladies that many young men now in school do not want to become executives, he said.

Dr. Levinson characterizes the executive as a different breed of cat whose strong desires and fears do get him into some medical hot water. However, the same ability and intelligence that made him an executive can help him avoid the popular executive diseases. Here is Dr. Levinson's self-help executive health program:

Recognize your role as a leader. Executives have been known to make themselves sick trying to evade or reject leadership.

Remember that leadership consists largely of giving to others. The executive must give responsibility, support, and encouragement to those he would lead.

Reconsider and reinventory your values and your progress. The world is changing fast and there is little point in expending energy to hasten toward a goal that no longer exists.

Budget your time. Put aside some time for your family and for a personal life away from business.

Have somebody to turn to. The executive needs a counselor from whom he can seek advice and direction on personal conflicts and on specific problems.

Adapt Geiger Counter To Aid Pollution Study

The Geiger counter principle has been adapted to air pollution study and to practical measurement of traces of many specific gases and vapors in air and in industrial process streams, it was reported at the American Institute of Electrical Engineers' 3rd National Conference April 21 in Philadelphia.

Best known for detecting uranium ore deposits and other radioactive materials, the Geiger counter is operated by the ion current which radioactivity produces between two high-voltage electrodes. The minute current of electricity provides a signal that can be amplified to be made audible or visible.

L. E. Maley, Mine Safety Appliances Company, told how ion currents have been put to work both

Store Safely

gasoline • kerosene
or any flammable liquid!

VENT-A-DRUM
automatic
SAFETY VALVE

protects against dangerous explosions!

The Vent-A-Drum *prevents* dangerous explosions which occur from fires and sudden temperature changes when storing flammable liquids, by automatically allowing air to enter or escape container. In addition to protecting property and lives, Vent-A-Drum pays for itself by reducing fuel evaporation 50%! Used by leading firms, approved by Factory Mutual Testing Laboratories. Precision-engineered, never requiring adjustment or replacement of parts. Cast Bronze. Completely guaranteed.

Dealerships and literature available.

CENTRAL Safety Equipment Co.

6613 MARSDEN ST. PHILA. 35, PA.

Circle Item No. 92—Reader Service Card

to detect and measure traces of many gases and vapors that may be dangerous to life or property, or may guide the control of chemical processes. For these purposes the instrument detector contains its own radioactive (only slightly greater than that of a luminous dial on a watch) ionizing material.

This use of the ionization principle depends on the chemical formation of solid particles from the gas or vapor, Mr. Maley said. MSA is using pyrolysis, solid and gaseous reagents, and aqueous solution to do this. For example, if the highly toxic hydrogen fluoride is present in the air in a concentration of one part per million, it can be reacted with ammonia to produce particles of the right size to cut the "steady state ion current" in half. Control of particle size is important to the technique.

When a gas can be reached with a suitable chemical reagent to produce a smoke in the ionization chamber, its effect on the continuous ionization current provides a sensitive and specific measure of the amount of the gas present. Ranges as low as 0-50 or 0-100 parts per billion of gases can be set up.

Techniques for measuring traces of a large number of gases and vapors have been developed by MSA for a commercial instrument which is called the M-S-A Billion-Aire.

Mr. Maley gave an illustrated description of the fundamentals of the instrument. The ion chamber is a stainless steel cylinder about four inches long and less than one inch in diameter. This is the outer electrode. The inner electrode is a concentric wire. Ionization is produced by alpha rays from 50 to 100 micrograms of radium on the inside surface of the cylinder.

Two of these ion chambers provide a compensated detection system. Air or gas samples are equally divided between the two chambers. Reagent is supplied for only one, the detector chamber.

The instrument has a simple electrical circuit. The two chambers are connected as series arms in Wheatstone bridge with a 10-megohm potentiometer as the other two arms. Steady state current through the ion chambers may be less than .01 microamperes. Concentrations of the gas is measured by a very high input impedance voltmeter.

These analyzers have been used to measure extremely low concentrations of such materials as ammonia, carbon tetrachloride, sulfur dioxide, nickel carbonyl, hydrogen cyanide, trichlorethylene, various amines, and oxygen. Applicability of the instrument is limited only by the ability to form a solid particle from the gas or vapor that is to be measured. Many other materials can be measured in this way, Mr. Maley said.

Scurvy Still a Threat Says Health Authority

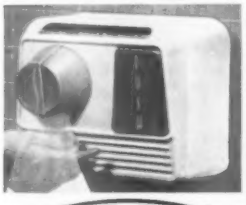
The world's foremost occupational disease is now so rarely encountered that diagnosis of a recent outbreak long eluded modern, atomic-age physicians.

This disease, which has killed at least two million people, is scurvy. Dr. Carey P. McCord, editor of *Industrial Medicine and Surgery*, and faculty member of the University of Michigan's Institute of Industrial Health, described the his-

SANI-DRI ends woes!

SANI-DRI ELECTRIC HAND DRYERS

★ Automatic 24 Hr. Service
★ Cuts Maintenance Costs 85%
★ Eliminates All Towel Costs



NEW!
Faster Drying! Abuse-Proof Aluminum Nozzle and Push Bar!

Write Today!
FOR NEW BROCHURE AND PRICE LIST

THE CHICAGO HARDWARE FOUNDRY CO.
1059 COMMONWEALTH AVE. • NORTH CHICAGO, ILL.

Circle Item No. 93—Reader Service Card

GETS FLOORS REALLY CLEAN

LEGGE Damp Sweep Tool

Now, **pick up** dust — don't just push it around.

Leading Sanitary Engineers can tell you: Daily cleaning with the famous LEGGE DAMP SWEEP TOOL does **twice** the work of a dry broom — in ⅓ **less time.** Yet it costs less than a day's pay for a cleaning man.

Unique double swivel gives flick-of-the-wrist maneuverability. Changes direction without lifting from floor. Lightweight, easy to handle. Oval or rectangular brush. Also available with new triangular brush that gets you in and out of corners in a jiffy. Equipped with super-absorbent cleaning cloth that withstands repeated washings.

Oil vs. Water

If you've debated the merits of oil treated rags against LEGGE DAMP SWEEP CLOTHS, hear this: "We used both sides of oil treated rags, only one side of LEGGE Cloths. LEGGE Cloths not only **saved hours,** but got the floor **far cleaner.**"

So says the Maintenance Chief of a large industrial plant, after an impartial test.

Clip coupon for prices and full information on LEGGE DAMP SWEEP TOOLS.

LEGGE SYSTEM

Walter G. LEGGE Company, Inc.
Dept. N-5, 101 Park Ave., N. Y. 17, N. Y.
Branch offices in principal cities.
In Toronto — J. W. Turner Co.

☐ Please send prices and full data on Legge Damp Sweep Tools.

Name_____
Title_____
Firm_____
Address_____
City_____ Zone____ State_____

Circle Item No. 94—Reader Service Card

national's non-toxic VEG-OUT destroys weeds

National's non-toxic VEG-OUT is a non-selective weed killer—it will attack all vegetation. Liquid VEG-OUT is safe to use around humans or animals. Sprayed on the surface of the earth, it is carried into the soil by rain or water and absorbed by the roots of growing or dormant vegetation. The roots die and the entire plant is permanently destroyed. VEG-OUT can be applied by hand or mechanical sprayer at any season of the year. Use VEG-OUT to rid your soil of undesirable vegetation.

A PRODUCT OF NATIONAL RESEARCH

national
DISINFECTANT COMPANY
2417 Commerce, Dallas
906 S. Seventh, St. Louis

Circle Item No. 95—Reader Service Card

tory of this disease in the 1959 Sappington Memorial Lecture before the Industrial Health Conference at the Sherman Hotel, Chicago, April 28.

Dr. McCord noted the great periods of disasters caused by scurvy were the three hundred years from 1500 to 1800 when it was known as the principal killer of sailors. Scurvy, called scorbutus in the medical books, is caused by the lack of vitamin C in the diet. The first recorded outbreak of the disease was during the voyage of Vasco da Gama from Spain to India in 1497. The crews of the four vessels that made this voyage were literally wiped out by scurvy. It was left to the British Navy later to discover that sailors who ate citrus were spared the ravages of scurvy. So, British sailors are still known as "limeys" from the rations of limes that they were issued to prevent scurvy.

Dr. McCord called scurvy a threat to any captive work force such as in a shop, isolated labor camp, army post, mental hospital, or prison. Three months of ascorbic acid deficiency is all that is required to produce scurvy in any individual, he said.

Although the disease looms as an ever-present threat, it is rare—so rare that doctors have forgotten how to diagnose it. Dr. McCord relates that two summers ago a strange disease appeared in some uranium prospectors in Canada. One hundred years earlier, any physician would have made a diagnosis of scurvy, but it took present-day doctors a long time to decide on the cause of the prospectors' illness.

Health Congress to Meet in New York

The 13th International Congress on Occupational Health—first to be held in the Western Hemisphere—will meet in New York City, July 25-29, 1960, according to an announcement by Dr. Leo Wade, of New York, chairman of the organizing committee.

Several thousand physicians, nurses, industrial hygienists, and other delegates from more than forty countries will attend, Dr. Wade said. He is medical director for Esso Standard Oil Company.

Bashlin's
30 Years of QUALITY INDUSTRIAL Safety EQUIPMENT

CHOICE OF EXPERIENCE

You are looking at the Finest Quality Bashlin Industrial Harness of Cotton Webbing—sewn with nylon thread.

A COMPLETE LINE

Bashlin's Industrial Line of Safety Belts and Harnesses includes the correct equipment for your requirement. Below, one of Bashlin's many all-leather holsters. Also complete linemen's equipment—a Bashlin feature.

You Can't Afford Anything LESS Than the BEST—
Buy BASHLIN
Highest Quality For Over 30 Years
Distributors in Strategic Areas in U.S.A.
EXPORT: Copperweld Steel International
Canada: A. B. Chance Co. of Canada, Ltd., Toronto

Ask for . . .
CATALOG NO. 54-S

W. M. BASHLIN CO.
GROVE CITY, PA.

Circle Item No. 96—Reader Service Card

Theme of the New York meeting will be prevention, rather than cure. Program participants from the many countries will report on their experiences, the findings of both clinical and laboratory research, and on methods for control of occupational health hazards. Plans already are under way to provide meeting facilities, and for translation services, accommodations for the visitors, and other arrangements.

The congresses are sponsored by the Permanent Committee and International Association on Occupational Health, of which Dr. Sven Forssman, of Stockholm, is president and Dr. Enrico Vigliana, of Milan, is secretary.

All previous meetings have been held in Europe, beginning with the first one in Milan in 1906. The 12th Congress was held in Helsinki in 1957.

Dr. Wade said the international meetings on occupational health are one means of implementing an objective outlined by the President in his latest State of the Union message.

"A program of science for peace," President Eisenhower said, "might provide a means of funneling into one place the results of research from scientists everywhere, and from there making it available to all parts of the world. There is almost no limit to the human betterment that could result from such cooperation."

As modern industry continuously expands its uses of materials and technological techniques throughout the world, new occupational hazards come into being to take their places beside such old and well-known ones as arsenic, mercury, and lead.

Radioactive materials, for example, are being used to an increasing extent in industry. Findings of research now in being which will be reported at the 13th International Congress on Occupational Health will supplement present knowledge on the control and effects on health of industrial radiation exposures.

Dr. Wade pointed out that such man-made hazards among industrial workers can and, in most instances, are being controlled—with resulting benefits in health, increased productivity, and economic well-being for vast segments of the world's population.

Publication Describes Mine Disaster Record

Since 1939, more than 13,000 miners have died in 466 major explosions in the nation's coal mines. Lessons learned from these deaths are described in a Bureau of Mines Publication recently released by the Department of the Interior.

Vivid descriptions of major explosions dating back more than a century are found in the publication's 275 pages. Scores of illustrations show conditions found when rescuers reached disaster scenes. Drawings and photographs, along with detailed accounts of eye witnesses and investigators, show how and why the tragedies occurred and how they could have been avoided.

According to the publication, *Historical Summary of Coal-Mine Explosions in the United States*, coal was first used in this country in

Circle Item No. 97—Reader Service Card

JUNKIN
ELECTRO-LOCK SHIELD

MAXIMUM visibility... MAXIMUM protection!

The Junkin Electro-Lock Shield permits the operator to see clearly the work he is performing and at the same time protects him from severe injury or eye damage. Interlocking power and light circuits will not permit the machine to operate unless the shatter-proof Junkin Electro-Lock Shield is in complete protective position. This feature guards unthinking operators against mishap.

Junkin
SAF-SIGHT
SHIELD

The Saf-Sight Shield is a simple, practical, low-cost means of providing basic protection.

Write for
FREE BULLETIN

Canadian Distributor:
Levitt Safety Ltd.,
Toronto

JUNKIN SAFETY APPLIANCES
3121 Millers Lane, Louisville 16, Ky.

FOR THE 2 MEN who use or need GAS MASKS

1 Who admits he has Problems 2 Whose Problems are all Solved (He Hopes ? ! ?)

HAVE YOU CONSULTED THE ONLY EXCLUSIVE MANUFACTURER of FULL FACEPIECE GAS MASKS?

ACME
GAS MASKS

For better and more comfortable fit. Definitely!
Greater undistorted vision. Scientifically proven.
Acceptable Speech—Acme Speech Relay Valve—Patented.
Less Fogging—Jet Air Valves—Patented.
Welding Gas Masks—Usually costs nothing.*
Fatigue reduction—Less exhale resistance.
Prescription lenses—"Spec" Mask. Patented.
Non-freeze valve—Protectavalve—Patented.
Special outfits—for special problems.

*WRITE or PHONE for details.

ACME PROTECTION EQUIPMENT CO.
1209 KALAMAZOO ST. PHONE 1295 SOUTH HAVEN, MICH.

Circle Item No. 98—Reader Service Card

Leading industrial doctors advise immediate washing with plenty of running water as the best first aid treatment for any chemical in the eyes. Records prove that washing with water for ten minutes or more, close to the accident, is necessary to reduce or eliminate eye damage.

Forehead operation leaves hands free to open eyelids so water can be directed wherever chemicals might be lodged. Sanitary white baked enamel bowl is resistant to most fumes.

Over 500 industrial plant installations have been made to date.

Write For Details.

VALVE
Chain Operated
Quick Action
Self-Closing

NEW EMERGENCY SHOWER

The B & A Shower is the quickest and most satisfactory way to saturate a worker with gallons of water the instant an accident occurs, to prevent a disfiguring burn—even a fatality.

Special shower head, no holes to clog—can be used where unfiltered water prevails.

Write For Details.

GLASS SLIVERS AND CHEMICAL IN EYES!

DISFIGURING FACIAL CUTS AND BURNS!

CUTS AND CHEMICAL BURNS ON ARMS AND BODY!

THIS HAPPENS WHEN UNPROTECTED GLASS BOTTLES ARE BUMPED

NEW LOW COST B & A SAF-T-BAGS

are widely used for the safe handling of glass bottles containing harmful chemicals; also the storage and recovery of expensive serums, biologicals, and other costly products.

Painful cuts, disfiguring burns, loss of eyesight, or even a fatality, do result from corrosive liquid splash and flying glass when unprotected bottles shatter.

Write For Details.

5 PINT
1 GALLON
5 GALLON

BENSON & ASSOCIATES, INC.

P. O. Box 7542, Dept. N.S., Chicago 80, Ill.

Circle Item No. 99—Reader Service Card

1702. At that time, mines were small and shallow. As men dug farther underground, explosive gas was encountered. It was easily ignited by open-flame lights and black blasting powder—both outlawed in modern mines.

The first reported explosion was in 1910. Since fewer than five men were killed, however, it was not counted as a major disaster. The first major explosion came 29 years later at Virginia's Black Heath Mine near Richmond. Fifty-three men were killed.

As the demand for coal increased and underground workings became more complex, disasters mounted. The death toll for a single year reached a peak in 1907, when major explosions took a total of 1,148 lives. One of these was at Monongah, W. Va., the worst ever experienced in American coal mining. In that single disaster, 362 men were killed.

Advances in coal mine safety are traced in the publication. Improved methods in testing for gas, rock-dusting to make bituminous coal dust nonexplosive, use of permissible mining equipment, plus growing attention to accident prevention by workers and management are reflected in tables and figures.

Major disasters still occur but with far less frequency. Mining today involves the same hazards of gas, coal dust, falls of roof, and inrush of water.

The publication lists a large number of smaller explosions frequently reported. Since these kill fewer than five men, they are not considered major disasters, nor are their fatality figures quoted in the total of 13,000. Many of these so-called minor ignitions and local explosions might have been major disasters with the right combination of circumstances.

Historical Summary of Coal-Mine Explosions in the United States was written by Hiram Humphrey shortly before his recent retirement after many years of service in the Bureau's health and safety program.

The publication, *Bureau of Mines Information Circular 7900*, can be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at $1.50 a copy. It is *not* for sale by the Bureau of Mines.

VOICE OF THE READER

Let's have your views on current topics. You don't have to agree with us

Snakes and Their Habits

DALLAS, TEX. Seldom does a reader tell you when an article is correct but you usually know when there is something wrong. That's true in safety engineering, I know.

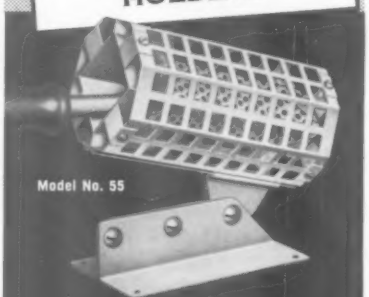
On page 254 of the March issue, it is stated that the habitat of the copperhead is the rocky cliffs bordering streams of the Appalachian mountains. The article indicated that was the only place they were to be found. Actually, they are found in large numbers all through the South and in lesser numbers clear to California.

I killed two on my stock farm in southwest Arkansas that measured close to six feet in length. They were both a long way from being sluggish and one chased me back to

SOLDER WITH SPEED AND SAFETY

FIRST WILDER IN QUALITY

ADJUSTABLE SOLDERING IRON HOLDERS



You can place these well designed soldering iron holders at any desired angle, and mount them either on top of or under the work bench. Or, pair a No. 55 and No. 53, with special slide attachment. Three sizes fit most irons. Wiping pad and clamp available.

Write for Complete Information

WILDER

MFG. CO., INC. PORT JERVIS, NEW YORK

Circle Item No. 100—Reader Service Card

my tractor as I was trying to keep it from retreating back into the swampy underbrush by throwing clods of dirt at it while yelling to my wife to bring my rifle. I shot the snake.

My worry was that my children and dog played around that area. Maybe Appalachian copperheads are sluggish, but they aren't in the South and Southwest. Several are killed each year within the city limits of Dallas.

I wish the article was correct as the copperhead is one varmint we can do without.

—H. E. PACKARD, *Regional Safety Officer, Post Office Dept.*

* * *

Thanks for putting us straight on the haunts and habits of the copperhead. A statement in a previous issue that rattlers weren't found north of the southern tip of Ontario drew replies from Canadian readers that these reptiles had been found as far north as Sudbury, Ont., and Calgary, Alta., although one reader admitted they weren't as big as the Texas variety.

Powered Hand Trucks

WAYNE, MICH. The photo on page 212 of the March issue shows one of the worst hazards that can be associated with a low-lift platform truck. This is a walking type truck, and it should not be driven as shown in the photo.

The driver is exposed to severe crushing hazards against building members, moving vehicles, etc.

We in the industrial safety field try to prevent improper and unsafe use of this kind of equipment only to find it exemplified in NATIONAL SAFETY NEWS.

Please make necessary corrections in your next issue outlining the hazards involved.

—JOHN A. JOHNIDES, *Safety Engineer, Wayne Assembly Plant, Ford Motor Co.*

MILWAUKEE, WIS. In the March issue you show a picture of a plant fire truck on a Yale & Towne platform truck. I think there are two things which should be questioned in this item:

1. The operator is riding a truck not designed for operator riding and apparently has his left foot hanging down where it could be crushed if the truck hit anything. This is poor safety illustration.

2. Considering its slow travel speed, how effective would this equipment be? Wouldn't a fire be pretty well out of control before it arrived?

—PETER GATES, *Safety Director, A. George Schultz Co.*

* * *

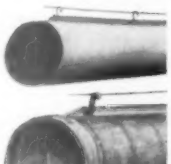
No doubt about it, riding a powered hand truck is not approved practice. The fireman was probably just sitting there while posing for the picture but it certainly doesn't look right. As for the second criticism, such a unit would be practicable only for short distances and where higher speeds were undesirable.

Buying a Hearing Aid

DETROIT, MICH. I have read with interest "Selecting a Hearing Aid" in your March issue. Articles like this certainly can do a lot to break

FOR SAFE
VENTILATION
IN MINES, TUNNELS, BILGES, MANHOLES
ABC NEOLON
Flexible Ventilation Tubing

Made from tough neoprene coated nylon. Can't tear. Wear resistant. Mildew proof. Yellow for visibility. Weighs fraction of metal vent pipe. Easy to couple, hang, store. 8" to 36" dia. All standard lengths. Also wire-reinforced NEOLON tubing for pulling out foul air. Send for catalog.



CUSTOM FLAME PROOFING ON FABRICS FOR SAFETY GARMENTS, WELDING CURTAINS, ETC. WRITE FOR DETAILS.

AMERICAN BRATTICE CLOTH CORP.
WARSAW, INDIANA
190 ARGONNE ROAD

Circle Item No. 101—Reader Service Card

Circle Item No. 102—Reader Service Card

NEW!

NOW IN 3 CURTAIN MATERIALS:

- ✓ 12 oz. DUCK — fire resistant.
- ✓ NEO-WELD — yellow neoprene-coated fiber glass. Gives greater protection and longer service.
- ✓ ALUMINIZED ASBESTOS CLOTH. Protects by reflection against radiant heat and flame — up to 1400° F.

Light in weight, yet sturdy and rust-proof. Assembles in 5 minutes — no threads. Folds flat. Dozens of uses — welding curtain, machine screen, grinding shield, wall curtain, etc. Available in all sizes. Ask your dealer or write us.

16 PAGE CATALOG
Complete line of work gloves, welding gloves and safety clothing.

Special Products Division
SINGER GLOVE MFG. CO.
860 W. Weed St., CHICAGO 22, ILL.

SEE OUR AD IN WELDING DIRECTORY

• Reduce traffic accidents at blind corners inside and outside your plant—also at loading platforms.

Heavy Gauge STEEL BRACKET
(Furnished only on the 26" diameter mirror)
- Utility design
- Enables Optional Installation on counters, posts, walls, ceilings, etc.
- Adjustable to height and position
- Easily installed in minutes

Traffic Safety Mirrors are available in Convex or Flat glass. All have a Yellow and Black Safety Stripe Border.
Round Convex Mirror Sizes
13" • 18" • 26" • 36"
Flat Rectangle Mirror Sizes
6"x14" 14"x18"
other special sizes to order
(Available in Unbreakable Metal Mirrors)

FRED SILVER & Company
Mfgrs. of Specialty Mirrors for Industrial Use
92 Lock Street Newark 3, N. J.

Circle Item No. 103—Reader Service Card

Circle Item No. 104—Reader Service Card

FOR THE FINEST QUALITY AND SERVICE
always ask for
EMERALD*
LENSES AND PLATES
SHADE No. 10
Emerald Brand
WELDER'S FILTER PLATE
AMERICAN INDUSTRIAL SAFETY EQUIPMENT CO.
5000 LAKESIDE AVE. • CLEVELAND 14, OHIO
* The finest made . . . the finest packaged — meet Federal Specifications — yet they cost no more than ordinary lenses and plates. Write for latest low prices.
AMERICAN INDUSTRIAL SAFETY EQUIPMENT COMPANY
3501 LAKESIDE AVENUE
CLEVELAND 14, OHIO
Division of The Budett Oxygen Company, Cleveland, Ohio

NEW
PORTO SCREENS WITH VINYL COATED GLASS CLOTH FABRIC
WELD-TEX vinyl coating on heavyweight glass cloth increases resistance to fire and chemicals, withstands higher radiant heat, will not separate or crack under heavy use. Apply PORTO-SCREEN hardware on your own pipe . . . assemble in minutes with allen wrench. Makes 2 or 3-section screen.
SAVE WITH PORTO SCREEN KITS . . . YOU ADD YOUR OWN PIPE OR TUBING
NEW
PORTO SCREENS IN 4 OR MORE SECTIONS
Make screens to any shape or length with multiple PORTO-SCREEN kits. Floor length curtain perfect for windbreak, welding, etc. Folds compactly for storage. Roller bearing casters available. In WELD-TEX or other fabrics.
NEW
VINYL COATED FABRICS FOR SPA-FLA SCREENS
SPA-FLA, the flexible screen the "forms around the job," is now available in UL approved WELD-TEX vinyl coated glass cloth. New colors, greater protection, longer life! Write for details!
WRITE FOR FREE CATALOGS TODAY
FROMMELT
FROMMELT INDUSTRIES
Dubuque, Iowa

Circle Item No. 105—Reader Service Card

down prejudice against the hard-of-hearing in industry.

There is one point, however, which would have enhanced the value of the article to readers if you had gone into it further. This is the selection of a reliable hearing aid dealer. In choosing a dealer, the individual should be guided by the following considerations:

1. Is the dealer's advertising conservative, in good taste, and on a professional, objective level? Or does it make extravagant claims or feature cut-rate prices?

2. Will the dealer supply the names of persons he has fitted?

3. Is he a Certified Hearing Aid Audiologist and a member of the professional organization in his field?

The Society of Hearing Aid Audiologists has established strict requirements as to experience, training, competence, and ethical practices. Although some reputable dealers are not Certified Hearing Aid Audiologists, those who are realize that for the protection of the public they cannot operate independently of the control of a professional organization which sets standards and makes sure those standards are continually met.

—JAMES E. ELLIOTT, *Executive Director, Society of Hearing Aid Audiologists.*

Winter Fire Protection

DETROIT, MICH. Please refer to page 213 of your March issue. The chart, "How to Select a Fire Extinguisher," we believe, is in error. Under "Soda Acid" in the reference "Subject to Freezing" you show NO.

We protect all our soda-acid extinguishers because they contain water. Our instructions indicate that they will freeze at 28 F and are inefficient at lower than 40 F.

—T. L. BUSSEY, *Assistant to Superintendent of Safety, Detroit Post Office.*

* * *

You are right. Both soda acid and foam extinguishers require protection against freezing. The Fire Equipment Manufacturers Association, whose chart was reproduced, informs us that this reference has been corrected in a later chart.

Disaster Preparation

BATTLE CREEK, MICH. Congratulations on your fine article, "Make Plans Before Disaster Strikes," in the March issue. Readers of NATIONAL SAFETY NEWS are a good group to receive this information.

Articles such as this are very useful in stimulating industry to prepare for major disasters and at the same time provide important information and guidance in such preparations.

May we have permission to reprint and distribute the article to industry?

—V. L. COUCH, *Director Industry Office, Office of Civil and Defense Mobilization*

* * *

Permission gladly granted.

All Out

—From page 104

Fire and evacuation alarms are given via the P. A. system. These alarms consist of three loud squawks followed by the location of the fire or an anouncement: "All personnel evacuate the plant." The all-clear consists of a simple voice announcement.

Frequent drills. As part of the familiarization program, members of the evacuation detail take part in regular practice alerts. They are notified in advance that a practice alert may be held during a specific week.

The safety director encourages frequent drills. Members of the evacuation detail keep records of the time taken to clear their own section of the building, and steps are taken to correct *slow* trouble spots.

"Dry runs" are held often, in which only members of the evacuation detail participate. It is recommended that such dry runs be held monthly to keep ushers and messengers familiar with their duties. It is also important to announce frequent test alarms to help employees recognize the alarm, as well as to make certain it is operating properly. Monitors and workers are informed when the alarm is to be sounded for test purposes only.

Circle Item No. 106—Reader Service Card

get modern eye protection

WITH JONES FULL VISION

VISOR GOGGLES

Send for Illustrated Catalogue for Models Listed Below

CLEARVIEW #1	Clear Lens
GLARESTOPPER #1A	Light Pale Green
GLARESTOPPER #2	Pale Green
GLARESTOPPER #2A	Grey
GLARESTOPPER #3	Dark Sage Green

Choice of 18 hole or Screened Port ventilation

ONE-PIECE SHATTERPROOF PLASTIC LENS
(METHYL-METHACRYLATE)

CALL YOUR JOBBER OR WRITE TO:

JONES AND COMPANY 861 Broad St., Providence 7, R. I.

SEE HOW YOU CAN SAVE

when you build railings with

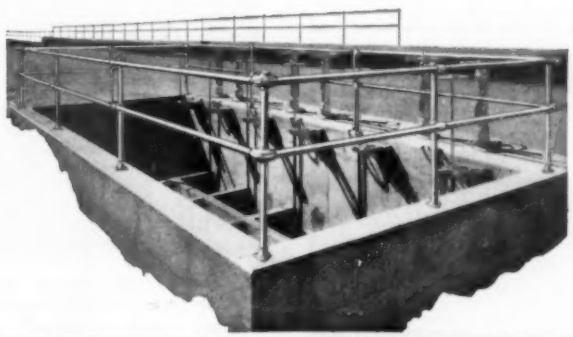
NU-RAIL® FITTINGS

Eliminate threading and welding when installing railings and you can save real dollars. You'll save those dollars when you use specially-designed NU-RAIL Slip-On Fittings—the quick, easy and economical method of pipe fitting. On long runs, mill lengths of pipe can be used without cutting.

On a mile of railing built at this Texas sewage treatment plant the unique offset and slip-on features of NU-RAIL Fittings resulted in significant savings—up to 80% of labor cost.

For more money-saving ideas in railing construction write for Bulletin W. 22-S.

THE HOLLAENDER MANUFACTURING CO., 3841 Spring Grove Ave., CINCINNATI 23, OHIO



Circle Item No. 107—Reader Service Card

for the Academy project. He cites

cies, the safety branch dealt only

YOUR LIGHTS COULD FAIL ANY TIME

But for just pennies a day, you can protect yourself from the risk of sudden darkness. Install Exide Lightguard® emergency lighting units. Completely self-contained, they plug into regular outlets. No wiring required. Then if power fails, Lightguard units go on . . . automatically. Flood entire areas with light. Prevent panic, theft, injury, damage. Buy from your nearby dealer. Send for free bulletin.

Exide® Industrial Division
The Electric Storage Battery Company, Philadelphia 20, Pa.

Send free bulletin on Lightguard units.

Name_____
Company_____
Street_____
City_____ Zone____ State_____

18

Circle Item No. 108—Reader Service Card

On the Double

—From page 21

5,500 at one point, the daily total of workmen has averaged a staggering 4,500 over the two-year period of major construction, making safety education a difficult but highly necessary endeavor.

The visitor influx. The phenomenal public interest in the Academy building program resulted in a record-breaking visitor load, composed largely of picture-taking tourists, and public safety was constantly threatened by the very scope of the input.

The variety of work. Construction work included many buildings of differing types and scales, extensive utilities systems, roads and paving, highway and railroad relocation, earth moving, tunnels, sewage disposal, incineration, landscaping, and a host of others, again complicating the safety program by requiring every type of accident prevention except marine safety. Many of the projects were highly dangerous.

The need for speed. A long-standing Air Force objective, the movement of the entire Cadet Wing last September to the permanent site from the interim Academy, Lowry Air Force Base, made essential a concentrated, high pressure effort to meet the deadline by all contractors with priority jobs, thus increasing the likelihood of accidents.

Weather conditions. Wind and lightning were special hazards on the job, with winds occasionally surpassing 100 mph and lightning a constant danger in this mountain country, making it vital that all precautions be taken.

The safety branch of the Academy Construction Agency's operations division consisted throughout the program of only five persons—a safety engineer (chief of the branch), another safety engineer representing the architect-engineer (Skidmore, Owings, and Merrill of Chicago), two inspectors and a secretary.

Miller Prose, branch chief, is a veteran of 20 years in construction safety work. A safety engineering graduate of Southern Methodist University at Dallas, Tex., he served as safety engineer during construction of the bomb loading plant at Grand Island, Neb., and the Boysen (Wyo.) Dam.

In 1955, he came to Colorado Springs to head the safety program

MACH I, falcon mascot of the U. S. Air Force Academy, appears at major athletic events of the Academy Falcons and performs a free-flight exhibition between halves of football games.

and air were placed down into the

There was exterior lighting on

Partly because of the require-

for the Academy project. He cites the "unwavering support" of the Agency director, his division chiefs and the contractors as being especially helpful to success of the safety operation.

Here is the way the program functioned:

Operated essentially as a service to the contractors, the safety setup called for a cooperative system under which the contractor with a safety problem would request assistance from the safety branch. As a matter of policy, all work areas were inspected twice daily.

Before work began, a preconstruction safety meeting was held with each prime contractor. These two-hour conferences covered all phases of safety and accident prevention and included thorough discussions of problems and solutions.

The prime contractors formed a group and established three dispensaries, placed in the most hazardous work areas. Each was staffed by a registered nurse and driver for the ambulance.

Except in the case of emergencies, the safety branch dealt only with prime contractors rather than subs, which made for an orderly operation.

For purposes of safety inspection, the site was divided into two areas, with each safety inspector responsible for one. This made it possible to cover effectively the four principal segments of construction effort—the service and supply area, with nine buildings; the community center area, with 11; the academic area, with eight, and the housing area, with 1,244 family housing units in two valleys, Pine and Douglass.

The two safety engineers gave assistance to the inspectors whenever needed, and frequent meetings of the engineers and inspectors were held for instruction in the safety aspects of the job. According to Prose, this educational program was a major factor in the program's success.

Specialized safety inspections were made on shoring, scaffolds, ladders and all high hazard work, and continuous inspections were conducted on all buildings and other projects in all work areas.

At the beginning and near the end of each job, safety inspections were thorough. All potentially disabling accidents and all eye injuries were investigated.

The Academy building program incorporated many dangerous undertakings which required close safety supervision.

The utilities, mostly underground, included gas, water, power, communications, and sewer lines. The power lines come into the two switchyards overhead and proceed from there to the buildings underground.

Two tunnels were bored. One, 400-ft. long, carries water to the site. About eight feet in diameter, it was bored through part of a mountain. The other, an 850-ft. utility tunnel, also was bored through a mountain and included a 1,350-ft. additional length of cut and cover section. All buildings have tunnels underneath to carry utilities.

Concrete subpiers were placed under all buildings. These were bored as deeply as 110 feet. Inspections were made of the bell bottoms of the subpiers under a process through which electric light

SAFETY ENGINEERS

Foreign Employment

Career opportunity for graduate engineers with minimum 5 years practical safety engineering experience in all operations, heavy industrial or chemical industries.

Must know A. P. I. codes and be familiar with hazards peculiar to oil industry. Capable of planning, developing and obtaining acceptance and support for complete accident prevention program.

Write outlining experience and personal history to:

RECRUITING SUPERVISOR
BOX 329

Arabian American Oil Company
505 PARK AVENUE
NEW YORK 22, N. Y.

save your voice

with the **Falcon Chief**
and save money, too!

speak as you normally would—be clearly heard and understood up to ½-mile away!

Unique transistorized power megaphone—an instrument you will be proud to own. Gives up to 6,000 two-second amplified messages from standard replaceable battery. Light (3¼ lbs.)—easy to handle and use. Attractive red and gray polyethylene—built for abuse. Attractively priced for you, too!

save life & property with **Falcon®**

No one can place a price on the possible loss of lives due to fire.
But Falcon Automatic Fire Detectors & Systems can give early warning of fire to protect lives and guard property.

Falcon Automatic Fire Detectors & Systems are:
- U/L APPROVED
- SELF-CONTAINED (no wires or batteries)
- FULLY GUARANTEED

... and they are low in cost!

To:
Falcon® ALARM CO., INC.
Summit, N. J. Dept. NS
Kindly furnish complete data about your "Sounds for Safety" products.
We are especially interested in your:
☐ Fire Detectors & Systems ☐ Power Megaphone
☐ Warning Horns & Systems ☐ Liquid Level Alarms
Name .....
Company .....
Address .....

Circle Item No. 109—Reader Service Card

and air were placed down into the borings for the workers and inspectors. For safety purposes, steel liners were inserted into the borings. Steel work on the buildings was 90 ft. above ground.

General construction procedures were used in the basic building, with concrete subpiers, steel on the subpiers, and steel members above that. The structures have concrete floors and roofs, and glass, brick, steel, hollow tile, concrete block, and aluminum were used in the walls.

There was exterior lighting on high metal poles along some of the 53 miles of paved roads, around the parking lots, and on one side of the parade grounds.

Sand, rock, dawson, and clay were encountered in earth work on the project, and in laying the utilities, some of the excavations were 35 feet deep, requiring the use of shoring. Virtually all types of construction equipment were employed extensively in the course of the huge, jet-propelled program.

Partly because of the requirement for a fast, uninterrupted work flow and partly because it made for a generally efficient system, prime contractors were told at the outset that they were responsible for the safety of all their subcontractors' employees.

This prevented a cumbersome procedure under which subcontractors would become involved in the intricacies of government safety management. Corrective action on any hazardous condition was taken immediately upon receipt of the report, so the operation proceeded without delays or red tape.

Prose attributes much of the credit for the safety program's fine results to the cooperation of the prime contractors in implementing this procedure and placing heavy emphasis on safety. This cooperation, along with a watchful, conscientious safety branch, ever alert to the workers' welfare and ready to respond quickly to requests for safety improvements, helped the program run smoothly and overcame its mighty problems.

Yet there were occasional snags, Prose points out. The largest ones came in the reconciliation of differing opinions on solutions to safety problems. The wide variety of suggestions from contractors, subcontractors, the safety personnel, and other interested parties made a certain amount of haggling unavoidable. But mutually agreeable answers always were found and common understanding reached, to everyone's benefit.

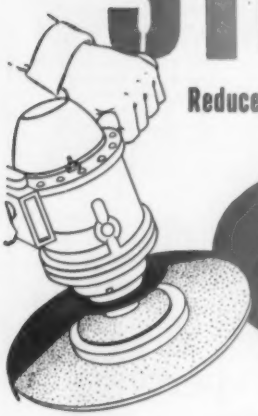
The citizens of the United States, who are footing the bill for the Academy, are entitled to see what they are buying. That was a basic Air Force precept from the beginning of the Academy building project. So visitors by the hundreds of thousands were permitted to drive through the site as soon as the first rough roads were carved out. Signs, gate handouts, and security patrols cautioned them against the dangers of heavy, non-stop construction.

However, after several near-misses and a tremendous increase in the visitor influx, it became necessary to bar unauthorized persons from the most active and congested work areas. Good long-range views of building activity still were avail-

Circle Item No. 110—Reader Service Card

STOP COSTLY ACCIDENTS

Reduce Insurance Costs • Cut Time Loss • Save Lives!



Install & use NEW MORRISON
STANDARD WHEEL GUARDS
. . . on your portable tools

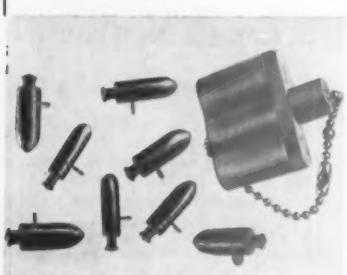
STOP costly accidents with MORRISON Standard Wheel Guards! Safety codes and laws REQUIRE guard protection. Specify MORRISON for maximum safety . . . lighter weight . . . lower cost . . . greater strength. Full protection for operator with minimum interference with work.

Remember, MORRISON also makes revolving cup guards. There is a MORRISON Guard for every application . . . all are made to comply with American Standard Safety Code.

SEE YOUR GRINDING WHEEL SUPPLIER OR WRITE:

MORRISON PRODUCTS INC. 16816 Waterloo Road Cleveland 10, Ohio

CUT DOWN NOISE
WITH THE S M R
EARSTOPPER



Soft, comfortable, resilient, the SMR EAR STOPPER adjusts itself to all shapes, turns and movements of the ear canal. Tends to anchor itself in the ear. Has a long life and is reasonable in cost. Furnished in a plastic case. Forty-five cents per set in gross lots.

Free sample when requested on company stationery.

SURGICAL MECHANICAL RESEARCH INC.
1905 Beverly Blvd., L.A. 57, Calif.
SMR

Circle Item No. 111—Reader Service Card

able from several overlook points.

Entrance to the most hazardous work areas was possible only by persons wearing special badges. Contractor employees were issued these passes by the offices of prime contractors, and the safety branch issued them to those military and civilian personnel of the Agency who had specific business in the areas. Members of the security patrol manned all entrances to the major construction points.

The only two fatalities in the project occurred after the most dangerous building was finished. They were the electrocution of an operating engineer when the boom of the rig he operated hit a 12,500-volt line, and the second accident (resulting in death 10 days later) in which a workman fell 16 feet from a scaffold.

Much emphasis was placed on the wind and lightning danger in preconstruction safety meetings and throughout the project. Constant exterior cleanups were necessary to prevent the blowing of scrap lumber and other materials. Several temporary construction buildings were destroyed by wind, and there were several minor injuries from blowing debris. A few workers were jarred by the violent lightning which accompanied some summer rainstorms.

The strong, gusty winds and lightning made it unwise to fuel vehicles during a storm, and the building of fires was prohibited except by special permission of the fire department.

A supplementary function of the safety branch during the period of primary construction was general supervision of the Academy fire department and security patrol.

The fire department had its own inspectors on duty 24 hours a day. Inspections were conducted on the hour, around the clock. Fire loss was negligible because of the thorough inspections and up-to-date fire fighting methods used by the department.

The security patrol, supplied with pickup trucks, made hourly rounds and performed a variety of services. Some patrol members provided information and precautionary advice at both Academy entrance gate houses and around the site throughout the day and night.

Today, the Academy building program is about 95 per cent done. And the construction safety job is largely completed. Work now is in the final stages on most of the major remaining contracts. But despite the nearly finished status of the program, the safety vigilance continues.

Primary attention will be devoted in 1959 to the five major remaining projects, three of which will be completed by year's end.

On June 3, the first commencement in the Academy's brief history will be held. President Eisenhower will give the graduation address, and dozens of prominent military and civilian figures will be in attendance, along with thousands of other visitors.

The cadets and their families won't be the only proud participants that day. Equally proud will be the team which built the Academy—quickly, soundly, and safely.

Circle Item No. 112—Reader Service Card

Entirely American Made

the Rapido Line

Fastest Custom Fit Frame In The World

FITS ALL YOUR WORKERS COMFORTABLY:

- Patented Retrax® Temples slide in or out for instant fit.
- Universal Nose Bridge, a perfect fit for every worker.

ACCOMMODATES YOUR PRESENT STOCK OF 57 LENSES:

- Spread-end frame makes lens replacement easy
- For plastic, glass or prescription lenses

ALSO

- Nylon hinges for superior strength
- Extra deep lens channels for extra safety
- Choice of popular frame colors

For details, see your Authorized Eye Savers Supplier

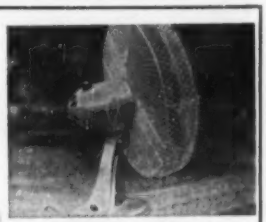
WATCHEMOKET OPTICAL CO., INC.

232 West Exchange St. PROVIDENCE 3, R. I. In Canada: Levitt-Safety Limited, Toronto 10, Montreal 26, Winnipeg.

GUARD YOUR FANS NOW

Protect Workers From Injury with

SAF-T-FAN-GARD



GUARDS THE FRONT

GUARDS THE REAR

Designed for factories and institutions to protect personnel from bodily injury

This fan guard prevents hand, arm and head injuries. Made of strongly woven cotton mesh fabric, with one-quarter inch openings. It is washable, mildew proof, non static, and won't interfere with the normal flow of air. Cover protects back and sides of fan as well as the front.

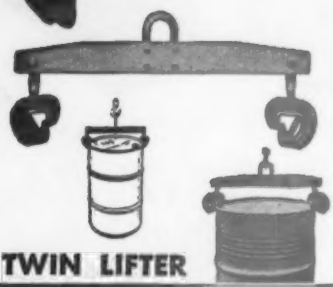
Immediate delivery. Write to

ROCHESTER SAFETY EQUIPMENT COMPANY, INC.

83 - 85 HOWELL STREET ROCHESTER 7, N. Y.

Circle Item No. 113—Reader Service Card

YOUR BEST MOVE . . . MOVE
with MERRILL
MATERIAL
HANDLING
DEVICES



For Interesting Information write

MERRILL BROTHERS

56-28 Arnold Ave., Maspeth, N. Y.
3-R-6

Circle Item No. 114—Reader Service Card

Test Ear Protection For Army Signal Corps

A quality analysis of ear protective devices for the U. S. Army Signal Equipment Support Agency, Fort Monmouth, N. J., is being conducted by General Dynamics Corporation's Stromberg-Carlson Division at Rochester, N. Y.

Part of an over-all standardization program by the Signal Corps, this psycho-acoustical study is being conducted under a subcontract with Lehigh Engineering Associates.

Different types of ear protection are being evaluated in Stromberg-Carlson's Acoustical Engineering Facility of the Special Products Division. The ear cushions are worn by servicemen subjected to high-intensity sound generated in such places as jet engine run-up areas, helicopters and tanks.

The devices are being tested for their ability to reduce the amount of noise reaching the ears of the wearers. Stromberg-Carlson's Model 484 speaker in an infinite baffle is used as a sound source.

George Ramig, project engineer at Stromberg-Carlson, and Jerome Goodman, engineer in charge at Lehigh, point out that the anechoic chamber and allied equipment at Stromberg-Carlson make possible detailed measurement of the acoustic attenuation of ear protectors. An automatic recording attenuator is used to determine the threshold of hearing of each subject without ear protectors and again with protectors. The difference in the level provides a measure of the protectors' quality.

Ten students from the University of Rochester Psychology Department are serving as subjects. Audiometer examinations were given the students before their selection.

Also under study is the subjects' ability to recognize information transmitted to the receivers in the various ear protectors while in a 122 db high-level ambient field with an armored tank noise spectrum. This noise, generated in a reverberant chamber, is approximately equivalent to the blast of a steam whistle at close range.

About 100 Stromberg-Carlson speakers in a single array are being used to provide the sound in the reverberant chamber for the recognition test.

A rule for success: Be nice to people until you make your first million. After that, people will be nice to you.

If you just keep rowing the boat, you won't have much time to rock it.

PERSONALS

News of people in safety and related activities

Name New Director of President's Conference

Appointment of REED OLIVER HUNT, executive vice-president, Crown Zellerbach Corporation, San Francisco, as executive director of the President's Conference on Occupational Safety, has been announced by Secretary of Labor James P. Mitchell.

The next meeting of the Conference will be held early in 1960. It will bring together a broad cross section of leaders of American industry, labor, government, insurance, education, professional organizations, and private safety groups to recommend voluntary methods of reducing work injuries.

The Secretary noted that, despite improvement, on-the-job accidents last year took the lives of 13,300 workers and injured an additional 1,796,700, many of them seriously.

Crown Zellerbach, one of the world's largest paper companies, is well known for its advanced safety work. The corporation has been active in a joint labor-management program, now in its 14th year, which has cut injuries to West Coast paper and pulp workers by 87 per cent.

As Conference executive director, Mr. Hunt will head an advisory group representative of major segments of the economy concerned with reducing accidents. He succeeds VINCENT P. AHEARN, executive secretary, National Sand and Gravel Association, who will continue as a member of the advisory board.

FEMA Elects Officers

A. C. TRAUTWEIN, senior vice-president, marketing, The Fyr-Fyter Company, was elected president of the Fire Equipment Manufacturers Association during the recent annual meeting in New York.

STEWART BOAL, president of Randolph Laboratories, Inc., was elected vice-president, and G. J. HALPIN, vice-president, sales, American LaFrance Division of Sterling Prevision Corp., was named treasurer.

Other board members elected are: R. L. WEIR, vice-president and director of sales, Elkhart Brass Manufacturing Company, and L. C. MCKESSON, vice-president, sales, Ansul Chemical Company. A. D. SYMONDS, treasurer of W. D. Allen Manufacturing Company and immediate past-president of FEMA, also serves on the board.

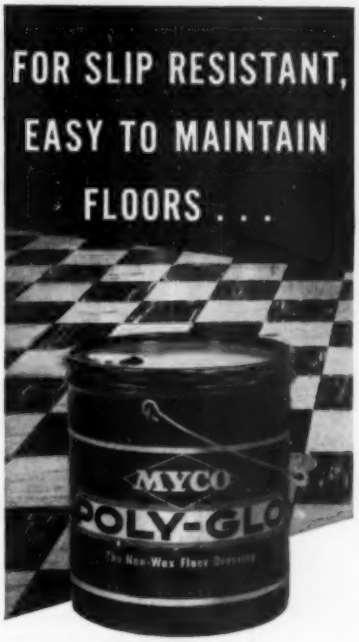
HENRY A. MORAN, Metropolitan Chapter, has been named safety director for the Military Sea Transportation Service, Atlantic Area, Brooklyn, N.Y. Mr. Moran holds an M.A. degree from New York University Center for Safety Education. He was formerly the supervising safety engineer at the U.S. Naval Underwater Ordnance Station, Newport, R.I.

GEORGE MATWES of Roselle, N. J., has been appointed safety director of Bamberger's—New Jersey, at Newark. He was previously associated with the American-Standard Company and Revlon Inc. as safety supervisor. During World War II he served as area safety engineer with the U. S. Engineering Department in the Caribbean and Southwestern divisions.

JAMES VANNAMEE has been named to the newly-created position of division administrator of accident prevention for the Westinghouse lamp division.

Mr. VanNamee will be responsible for coordinating the accident prevention and workmen's compensation activities throughout the manufacturing plants and regional warehouses of the lamp division.

A resident of Malden, Mass., Mr. VanNamee is a graduate of the Wentworth Institute, Boston. He began his career in accident prevention with Liberty Mutual Insurance



Non-Wax
POLY-GLO*,
the toughest, brightest finish for your floors

**Rated "excellent" by Underwriters' Laboratories' James Machine for slip resistance.*

One coat of POLY-GLO outlasts two coats of conventional floor dressings, making it possible to cut floor maintenance time up to 50%. POLY-GLO resists scuffing, heel marking and water spotting, will not yellow. Easy to apply, dries in minutes to a high luster, and removes easily with a neutral cleaner when floors are stripped.

FREE! 32 PAGE MODERN FLOOR CARE BOOKLET "WHAT EVERY EXECUTIVE SHOULD KNOW ABOUT THIS VITAL THOUSANDTH OF AN INCH." SEND FOR YOUR COPY

Branch Offices in Principal Cities In Canada; Toronto, Ontario

MYCO®

MASURY-YOUNG CO.

76 Roland Street, Boston 29, Mass.

☐ Please have your representative in my area call me for an appointment to discuss THE MYCO METHOD OF FLOOR CARE

☐ Send me free your new floor care booklet "What Every Executive Should Know About This Vital Thousandth of an Inch".

*Name*_____

*Company*_____

*Address*_____

*City*_____ *State*_____

NS-59

Circle Item No. 115—Reader Service Card

Circle Item No. 116—Reader Service Card

Special goggles provide safety for workmen, relieve tired eyes.

FOG-PROOF
GAS-TIGHT
GOGGLES

Hug face securely but comfortably. Can be worn with any respirator. Fog is removed from the lenses by an easy nod or shake of the head. A few drops of water on inner wall of lens do the trick.

COVER goggles and respirators are known world over for reliability. Send for literature.

See your safety equipment supplier or order your sample direct — $2.00 postpaid. Write today.

H. S. COVER
Dept. 506, South Bend 14, Indiana
"Respirators for Industry Since 1894"

Circle Item No. 117—Reader Service Card

Company. In 1956 he joined the Association of Casualty and Surety Companies, New York, as director of the engineering and research division . . . the position he had prior to his present work with Westinghouse.

He now lives in Glen Ridge, N.J., with his wife, Wilhelmina, and his son, James, Jr.

WILLIAM M. THORPE has been promoted to safety engineer for Jones & Laughlin Steel Corporation. He succeeds the late George C. Peters.

Mr. Thorpe formerly was a safety inspector in the Aliquippa Works. He joined J&L in 1956 in this capacity. He is a graduate of Rochester, Pa., High School and holds a B.S. degree in mathematics from Geneva College in 1949. He also is a graduate of the University of Pittsburgh in 1953 with a Master of Education degree.

A veteran of the U. S. Navy, Mr. Thorpe taught mathematics and history at Rochester Junior High School from 1949-1956.

CHARLES L. JONES, veteran of 46 years' service with Hercules Powder Company and widely known throughout industry for his work as a safety engineer, retired March 31.

In addition to his responsibilities for safety in all Hercules plants, especially those operated by the Cellulose Products and Virginia Cellulose Departments, Mr. Jones has been safety advisor to the protective coatings industry.

At the request of companies manufacturing paint, varnish, and lacquer, Mr. Jones has carried out annual inspections of many such plants and has served as a consultant on plant layout and design.

He is the author of two books, *Safety In Lacquer Plants*, and *Lacquer Plant Design*. He holds several patents in the area of safety engineering and was on the staff of the Newark College of Engineering.

During World War II he was

concerned with design and safety practices in company plants at Parlin and Belvidere, N.J., and at ordnance plants at Radford, Va.; Chattanooga, Tenn.; Lawrence, Kan.; Baraboo, Wis.; and Pulaski, Va.

Born in Louisiana, Mo., where he attended local schools, Mr. Jones joined Hercules on February 5, 1913, at the company's plant at Hercules, Calif. When he left Hercules in 1918 for service in the U.S. Army Engineer Corps, he was assistant engineer at the plant. He served at Hercules, Calif., and Bacchus, Utah, until 1925, when he transferred to the Engineering Department in Wilmington.

He is a member of the American Society of Safety Engineers, Society of Fire Protection Engineers, American Industrial Hygiene Association, American Public Health Association, and National Fire Protection Association.

Obituary

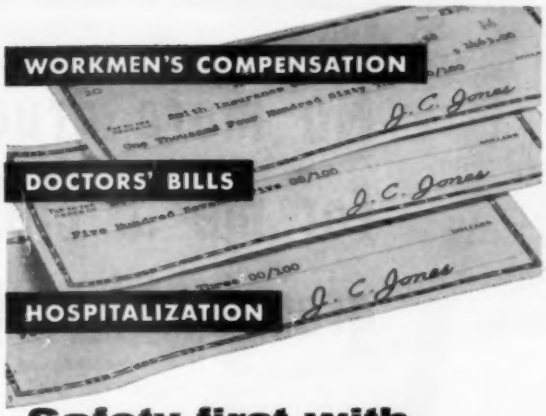
PAUL D. WOOD

PAUL D. WOOD, director of industrial relations for Alan Wood Steel Company, Philadelphia, died recently at his home in Norristown, Pa., after a long illness. Mr. Wood had been with Alan Wood since 1939, and had served as director of industrial relations since 1942.

Mr. Wood was born in Wellsville, Ohio, on July 15, 1896 and attended school there. He studied industrial relations at the University of Pennsylvania.

Mr. Wood was a member of the Industrial Relations Committee of the American Iron and Steel Institute, the American Management Associaion, the Industrial Management Club of Norristown, the Conshohocken Association, and was one of the founding members of the Industrial Relations Committee of the Pennsylvania Manufacturers Association.

Circle Item No. 118—Reader Service Card



Safety first with

FERROX®

costs a lot less

Why keep paying for slipping accidents? Simply install low cost, long lasting Ferrox. It provides non-slip footing on all surfaces, wet or dry. One gallon covers approximately 35 to 40 square feet. • **Write for Ferrox bulletin.**

AB 146

AMERICAN ABRASIVE METALS COMPANY

464 COIT STREET, IRVINGTON 11, NEW JERSEY

USE THE MODERN Safety Drill Table

Saves fingers! Saves time! Replace your present drill table with the Modern Safety Drill Table—then drop in the work and drill. Eliminates dangerous, hand held, small jobs. Handles odd, irregular shapes and sizes without V-blocks, clamps or parallels. Sizes for every need, with diameters from 8" to 27½". Guaranteed to save its cost in labor alone in 6 months. Write for literature.

FREE TRIAL OFFER

Write for details!

105

MODERN MACHINE TOOL CO.

2005 LOSEY STREET JACKSON, MICHIGAN

Circle Item No. 119—Reader Service Card

No more drudgery for me in cleaning grease-caked floors

A flip of the switch re-sharpens brushes automatically!

His boss is happy too . . .

and should be. Now an Industrial Dry-Scrubber, Finnell's 84XR at left, does the job in about one-tenth the man-hour time required to hand-scrape the floors! And of course the machine is far more thorough, and spares maintenance men the back-breaking effort of manual methods. Equipped with two powerful scarifying brushes, the *84XR* digs through and quickly loosens even the most stubborn coatings of dirt, oil, grease, and shavings. Universal couplings enable the brushes to clean recessed areas that rigid coupling brushes would pass over and miss.

Reversible motor keeps wires sharp. *A flip of the switch* reverses the rotation of the brushes and re-sharpens them automatically . . . *while working!* Eliminates the need for frequent changing of brushes by hand in order to maintain a sharp cutting edge. Reversal of brush rotation also helps keep the brushes functioning efficiently by ejecting sticky substances that would otherwise clog and slow up the cleaning process. Total brush spread of the *84XR* is 22 inches. Low, compact design permits cleaning right up to and beneath machinery — areas where deposits are heaviest. Interchangeable rings and brushes adapt the machine to wet-scrubbing, polishing, and steel-wooling.

Clean floors allow industrial trucks to move swiftly, surely and, according to actual tests, with *half the pull* it takes to move loads over dirty floors. In addition, clean floors aid safety underfoot and contribute to worker productivity. So it pays to keep floors clean—especially with a labor-saving *84XR!* (The Vacuum Cleaner at extreme left, *Finnell's 10C,* features a 1½ hp, 115v AC-DC By-Pass Motor. Tank capacity: *Wet,* 12 gallons . . . *Dry,* 1¼ bushels.)

For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2205 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

Circle Item No. 120—Reader Service Card

New SAFETY EQUIPMENT

Product announcements in this section are reviewed for compliance with the advertising policy of the NATIONAL SAFETY NEWS. Inclusion should not, however, be construed as endorsement or approval by the National Safety Council.

Molded Rubber Pail

An 18-qt. molded rubber pail resists strong acids, gasoline, kerosene, jet fuels, oils, greases, paints, and other chemicals. The pail is molded in one piece and is reinforced with fabric for added strength. There are no seams to split and will not leak, crack or bulge.

The pail cannot be crushed, nor will it mar surfaces. When hit with heavy blows, the rubber pail bounces back to shape. Guaranteed not to dent, chip or rust, it will remain unharmed by severe weather.

The molded round bottom eliminates corners where dirt can collect. There are no sharp edges to cause body injury. This safe pail does not spark when scraped or dropped, making it useful around high octane fuels in industry. Since the strongest acids, soaps and detergents cannot harm its rubber-fabric composition, it is also adaptable for use in chemical plants and general utility.

This pail is available in 10 and 12-qt. capacities.

Cauchotex Industries, Inc., 44 Whitehall St., New York 4, N. Y. (Item 301)

Safety Goggle Frames

The Rapido Line of universal, custom-fitting safety goggle frames accommodate plastic, glass and prescription lenses. These frames have Patented Retrax Temples which the wearer telescopes in or out for fit; a Universal Nosebridge for any nose; and a Spread-End Frame which facilitates 60-sec. lens replacement. Frames are available with or without side shields.

Additional features include deep lens channels to lock the lenses, nylon hinges for strength and durability, temple hooks which rotate 360 degrees, and a choice of frame colors. The frames are available with plastic or hardened safety glass, clear or green, S7 lenses.

Watchemoket Optical Co., Inc., 232 W. Exchange St., Providence 3, R. I. (Item 302)

Safety Hand Lamp

A stainless steel, dry-cell safety spotlight, called the "Commando," has been approved by the U. S. Bureau of Mines and the U. S. Coast Guard for Class 1—Group D use. It throws a 1,500-ft. beam of 15,000 beam candlepower. The adjustable focus permits instant selection of spot or diffused light. Power is supplied by a standard 6-volt double pack battery.

Davis Emergency Equipment Co., 45 Halleck St., Newark, N. J. (Item 303)

Industrial Handcleaner

A non-depleting, lanolized handcleaner with three new features is called "Lan-O-Kleen PLUS." The product offers a scrubbing action that doesn't roughen skin; a sudsing action that doesn't wash away natural skin oils; fragrance; and lanolin content that soothes and softens hands.

Lan-O-Kleen PLUS is made by a process that impregnates ingredients into finely-ground corn meal particles. In washing, these particles are said to have a sponge-like action that soaks up potential skin irritants without excessive rubbing.

West Chemical Products Inc., 42-16 West St., Long Island City 1, N. Y. (Item 304)

For More Information—Circle Item Number on Reader Service Postcard

Bottle Holder-Carrier

A new bottle holder-carrier protects glass bottles containing acids and other hazardous liquids during carrying or storing. The holder-carrier safeguards employees from spilled liquids and broken glass. The bottle is surrounded by polyester urethane padding to absorb shocks received from accidental bumping or dropping.

Sizes are available for bottles from 5⅛-in. to 5⅞-in. diameters and 6-in. to 6½-in. diameters. The Terne plate body is electrically seam welded and has a sturdy bail handle for convenience in lifting and carrying. This lightweight item occupies minimum storage and shelf space.

The Protectoseal Co., 1920 S. Western Ave., Chicago 8, Ill. (Item 305)

Safety Tongs

Griptongs and Niptongs protect technicians when handling radioactive objects or removing small objects from furnaces, ovens and acid baths. Safety tongs are invaluable for manipulating small parts or for retrieving them from inaccessible areas.

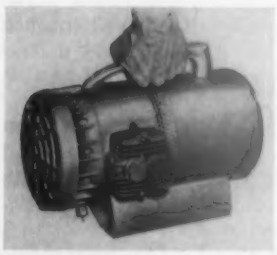
They will not let go until intentionally released by the operator. A specially engineered heat-treated compression spring maintains a strong hold on the object until the tension is released by squeezing the finger bar.

Forty-five-degree V-cut grooves lengthwise and crosswise on both jaw pieces of the Niptongs offer a secure grasp and prevent pivoting of the small diameter glass tubing, wire rods, Radium and so forth.

Griptongs are designed for grasping large diameter tubing, test tubes, beakers, and other cylindrical containers between 1 in. and 2 in. in diameter. Curved rubber-sleeved jaws hold the object so slipping is impossible. They are available in sizes from 12 in. to 48 in.

Machine & Instrument Design Corp., 109 Broad Street, New York City, N. Y. (Item 306)

Air Sampling Vacuum Pump



This air pump is a continuous-duty vacuum source for plant safety and air pollution studies. The pump is activated by graphite-ringed pistons, giving volumetric flow over a range of vacuum conditions.

Choice of air capacity is 2 cfm or 4 cfm. Bearings are greased, packed and sealed, requiring no oil in the operation. Inlet and exhaust valves are optically polished for leakproof fit. Piston ring joints are self-sealing. This pump is available housed in a weatherproof shelter for radiological fallout studies and air pollution work.

Gelman Instrument Co., 233 Jefferson St., Chelsea, Mich. (Item 307)

Vinyl Clothing

Garments made of Bakelite Krene vinyl sheeting are used in chemical plants, offering resistance to acids, oils, and alkalis. This clothing will not mildew when stored wet and can be used by telephone linemen because of electrical safeguards and weather resistance. In an actual case, the life of a technician was saved when he accidentally brushed against a live wire carrying voltage in excess of the sheeting's dielectric strength—16,000 v.

Lumbermen, foresters and boat crews can use these garments because they are long-wearing, durable, resist abrasion and are easily repaired if punctured.

Krene vinyl sheeting is lightweight, weather resistant and stays pliable in cold weather. The high dielectric strength of the material exceeds requirements of the Flammable Fabrics Act.

Made of 20-gauge, olive-drab Krene sheeting, the Super Duty Jackets and Pants have welting reinforcement at the bottom of the jacket sleeves and legs for added strength.

Union Carbide Plastics Co., Div. of Union Carbide Corp., 30 E. 42nd St., New York 17, N. Y. (Item 308)

Ladder Accessory

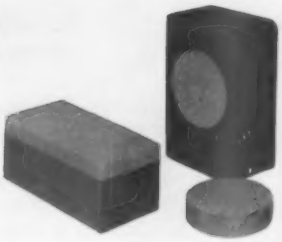
The Res-Tep Safety Step consists of a one-piece aluminum detachable ladder step with a 5- by 12-in. footrest surface.

The 4-pound device can be used for any round rung standard ladder. Safety and comfort are assured on any rung regardless of the tilt of the ladder. The unit can be used on double extension ladders or single ladders. No adjustments are necessary at any time. Climbing up or down is not hindered.

Most of the weight of an individual is applied to the ladder uprights instead of the rung. Deep diamond tread on the foot surface reduces slipping hazards.

Utility Tool & Body Co., Inc., Clintonville, Wis. (Item 309)

Aisle Marker

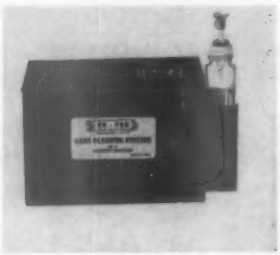


Fibrous glass discs, designed for permanent aisle marking in wood, tile, concrete and asphalt floors, are available in yellow, orange, white and red. The markers are installed by drilling holes into flooring and bonding the discs into place.

The markers fit flush to the floor and provide clear markings for aisleways, danger areas, and guide lines. The manufacturer claims the discs have been subjected to heavy plant traffic without showing up any sign of wear or damage. The marker measures 2⅞-in. and is produced in two thicknesses, ½-in. and ¾-in.

Hayden-Shaw Mineral Products, 7814 W. Jefferson Ave., Detroit 17, Mich. (Item 310)

Lens Cleaning Station



An all-metal, heavy-duty Lens Cleaning Station is advisable where dust, grime and grease are a problem to machine operators and production workers. The station will contain a box of giant-size No Fog Lens Cleaning Tissues and a bottle with an easy-action spray pump.

The tissues will clean and fogproof in one operation with water. The tissue is chemically treated and will not scratch glass or plastic lens. The tissues may be used several times.

Carhoff Co., 11706 Kinsman Road, Cleveland, Ohio (Item 311)

Hoist Hook Safety Latch

A safety latch for hoist hooks prevents accidental detaching and dropping of loads. The latch can be fitted on hoist hook in minutes, with hand tools to provide safety without custom conversion or hook replacement.

This safety device has only two major parts—a clamp-on collar and a corrosion-resistant spring-loaded safety latch, which fits into the hook opening. The collar, held in place by a bolt and self-locking nut, is made of manganese-bronz alloy that conforms to the contour of any hook shank.

Lugs on both sides of the latch allow setting or releasing the device without placing fingers in the hook opening.

The latch is held in place by a stainless steel spring which provides constant pressure between the latch and hook. The latch also is notched on its free end to prevent shifting from the locked position.

This device is available in four sizes for ¼ to 3-ton units.

Harrington Co., Gravers Road, Plymouth Meeting, Pa. (Item 312)

Noise Controllers

S-O-S Noise Controllers shut out shock, yet enable the user to hear normal conversations. They help eliminate fatigue and other difficulties caused by unwanted and shock noises.

Controllers do not enter the ear canal where the insertion of foreign objects frequently results in irritation and infection. They are sanitary, as they are made of polystyrene and can be cleansed with soap and water. They are comfortable. A twist inserts or removes them. S-O-S Controllers are available in small, medium and large sizes.

M-M-A, Inc., Lancaster, Pa. (Item 313)

Cable Puller

Pengo Model 5500 BWCP Bull Wheel Cable Puller has been signed for use with models of the Pengo Tensioners.

The Puller consists of a pair of 26-in. diameter, neoprene-lined Bull Wheels that pull pulling line up to 1¼-in. diameter manila rope. The unit carries its own reel, to which the pulling line is wound after it is pulled in over the Bull Wheels of the Puller. Designed for distribution work, the unit has a power plant, and can pull tensions up to 1700 lbs. at 3 mph, or 3100 lbs. in low gear. The Puller is available as a complete unit, including a single axle trailer for towing behind any motor vehicle, or as a skid-mount rig for mounting on a truck or barge.

The unit has standard safety features and is considered useful with the various 5000 Series Models of Tensioners for distribution of hot-line stringing.

Petersen Engineering Co., Inc., 460 Kifer Road, Santa Clara, Calif. (Item 314)

Soap Dispenser

A 96-oz. can is pressed on the No. 90 Dispenser to ready it for operation. Simplicity and ease of operation are primary features. Four types of dispensers are now available for dispensing of Antiseptic Paste Cleanser "Vi-Lan."

Dameron Enterprises, Inc., 427 S. 20th St., Louisville, Ky. (Item 315)

Salt Dispenser

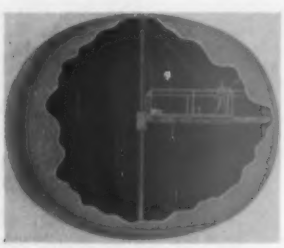
500 and 1,000 tablet capacity disposable salt tablet dispensers have built-in transparent windows to show the tablet level. Both are equipped with an exclusive mounting device—a reinforcing aluminum plate with novel keyhold slots.

The dispenser case is styrene and factory-sealed to keep out dust and moisture, with a temperature resistance of up to 200 F.

A failure-proof dispensing knob delivers a single tablet at a time. Three kinds of salt tablets can be supplied with the unit. They are plain, impregnated and enteric coated.

Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa. (Item 316)

Scaffolding



This scaffold has been designed for working inside spheres, requiring the installation of a uniform diameter length of tubing from top to bottom of the sphere and a revolving ring to which a snatch block is attached. Remaining equipment is removable from inside the tank and can be raised or lowered by hand, electrically or by air.

Longitudinal sections of the work platform are telescopic as it approaches the top or bottom of the sphere. The assembly can be rotated around its axis to reach any portion of the sphere.

This scaffold can be fabricated for capacity ranging from 500 to 1,500 lbs. It is of all-welded steel construction, relatively light in weight, and can be installed in the bottom opening by two men. Guard rails are demountable.

Atlas Industrial Corp. 849 - 39th St., Brooklyn, N. Y. (Item 317)

Safety Glasses

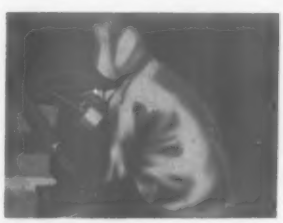
C-20 Safety Glasses combine long-wearing comfort and attractiveness with protection properties of safety glasses. The C-20 is a combination plastic and metal frame with top rims and temples in dark brown, contrasting with white metal eyewires and engraved bridge.

A strong, durable front of nickel-silver encircles the lenses, assuring frontal protection. There is nothing to break, shrink or warp. The frame features sturdy bridge construction united to the eyewires by wide solder joints. These lenses can withstand blows up to 14 times heavier than the standard required by federal specification. Modern lens shape provides a wide field of vision, and will accommodate individual prescriptions, single vision or bifocal. Where glare protection is necessary, the C-20 is available for green lenses in two different shades.

Side shields can be attached for side protection.

Safety Product Dept., Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y. (Item 318)

Protective Heat Cloth



"Ray-Foil" Protective Heat Cloth is in a new line of Protekote garments offering the wearer protection against radiant heat. The material is aluminized on fire resistant duck, rayon and asbestos backing fabric.

The garments can be obtained with "Ray-Foil" back or front vest, sleeves, or hood, and are designed for cement and steel mills, glass, tile and chemical plants, refineries, brick plants, and power-generating stations. The lightweight garments are tailored, and furnished with "pop-open" buttons. Seams are finished inside. The garments are available in many sizes.

Frommelt Industries, 290 Main St., Dubuque, Iowa (Item 319)

Barricade

The "Lite-Guard Shorty" is a versatile barricade for hazardous areas. The unit is also available with flags. A flasher or a reflectorized disc can be obtained for the barricade. Any wording requested by the customer can be placed on the sign by the manufacturer.

Park Industries, Inc., 4328 Oakwood Blvd., Melvindale, Mich. (Item 320)

Plastic Instep

A plastic metatarsal foot protector combines safety with wearer comfort and flexibility. The protector consists of an outer shell of flame-resistant plastic, .062-in. thick over a high-tensile aluminum plate sandwiched between two ½-in. layers of unicellular vinyl plastic.

Designed for safety toe shoes, the protector weighs 5½ oz. and fits all shoe sizes. It is held in place by a strong steel spring which slips over the heel. This spring binding, reportedly, keeps the protector in place without hampering freedom of movement. Falling objects are deflected from the foot by the protector shell.

Safety First Suply Co., 425 Magee St., Pittsburgh 25, Pa. (Item 321)

Safety Drum Valve

Improvements in the automatic components in the Vent-A-Drum Safety Valve increase the speed of the valve's jetting action in a fire or sudden temperature change. The Vent-A-Drum is used in bung openings of standard drums to avoid explosion when storing flammable liquids.

This valve permits the liquids to be withdrawn, by allowing the air to enter or escape, and automatically controls pressure changes. If fire occurs, the valve relieves excess pressure instantly by jetting vapors outward through six vents. The valve also reduces the loss of liquids in normal storage by reducing evaporation. The valve has been approved by Factory Mutual Testing Laboratories.

Central Safety Equipment Co., 6601 Marsden St., Philadelphia 35, Pa. (Item 322)

Eye Shields

"E-Z-Fit" Eye Shields, plastic molded to fit the face, are designed for wearing with or without prescription glasses. The shield is held on by an adjustable elastic band with ventilating holes on the shield's side to give wearing ease and protection with all angle viewing.

Kerrco Products, Box 228, Lincoln 7, Nebr. (Item 323)

Plastic Globe Soap Dispenser

Model 829 Basin Type Liquid Soap Dispenser features chrome-plated brass construction of the body and a tamperproof, precision-machined, stainless steel pushbutton spout. This is a "top fill" dispenser, without packings or washers.

A feature is the rigid linear polyethylene globe. Translucent, unbreakable, the new 16-oz. globe is said to be impervious to distortion or discoloration. The dispenser can fit enameled steel, cast iron, or vitreous china basins, and be mounted through counter tops.

Bobrick Dispensers, Inc., Dept. NH, 1214 Nostrand Ave., Brooklyn 25, N. Y. (Item 324)

Telescoping Work Platform

A telescoping work platform for overhead spot maintenance fits inside any normal-size elevator or storage closet and rolls through doorways. Measuring about 6-ft. long by 6-ft., 7-in. high and 28 in. wide, the platform unfolds into a telescoping unit extendable up to 20-ft. heights. Known as the "Elevator-Size Tallescope," it is made of aluminum, rolls with the job and can be assembled by one man.

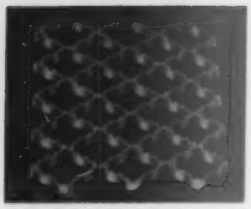
Up-Right Scaffolds, 1013 Pardee St., Berkeley 10, Calif. (Item 325)

Welders' Glove

A Montpleier Welders' Glove features a long palm of horsehide, which is durable under welding conditions. The extra length of the palm helps avoid- seam-chafing at the wrist.

Other construction features include horsehide gussets, welted seams wherever there is the possibility of contact with sparks, a seamless back, cuff lining; and the thumb is lined in wool.

Riegel Textile Corp., 260 Madison Ave., New York 16, N. Y. (Item 326)



Non-Skid Flooring Material

"Protecto" flooring material is an effective skid-proof product even when heavily coated with grease and set on an angle.

This safety grille material has been developed for the "Assemble-It-Yourself" steel fabricator and maintenance shop for stair treads, platforms and other safety grille products.

The lightweight, sturdy grille comes in 9-ft. lengths in a variety of widths.

Bustin Steel Products, Inc., Dover, N. J. (Item 327)

Ladderig

The "Tip-Stop" Ladderig is said to prevent ladder-tipping accidents. It is an all-aluminum outrigger that fits flat sidewall ladders 40-in. long and up. Its telescopic action permit safe use of ladders on uneven or level terrain.

It is rustproof and has been bright dipped. The base plates have corrugated rubber pads that hold to all surfaces and protect polished surfaces. When extended, "Tip-Stop" increases potential bearing area of ladders almost eight times. When not in use, the ladderig folds up and clamps to the siderail.

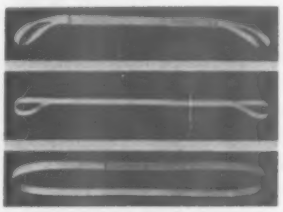
Robbie Durrell, Inc., 278 E. State St., Westport, Conn. (Item 328)

Safety Marking Rope

Triple strand, polyethylene Safety Marking Ropes are available in three combinations of high-visibility colors. The red and white, black and yellow, magneta and yellow ropes are highly visible, lightweight, slow burning, acid resistant, and offer superior durability over cotton cord under chemical attack.

The ¼-in. rope is approximately equivalent in bulk to No. 8 cotton cord. The vivid color combinations are effective for barrier uses in hazardous areas.

D. Jay Products, Inc., P. O. Box 797, Newark 1, N. J. (Item 329)



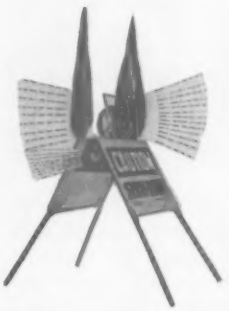
Nylon Slings

A new soft sling handles polished, painted, coated or delicate items to avoid marring, marking or scratching.

This nylon webbing sling is produced in three styles, sewn into widths and lengths to meet requirements.

"Saf-T-Grip" Slings are marked with the length and safe working load. They are simple to inspect and economical to use, stock, and handle. All slings have been laboratory tested.

Pennsylvania Sling Co., 501 McNeilly Rd., Pittsburgh 26, Pa. (Item 330)



Hazard Warning Device

The Flash-Glo hazard warning device has 2-way top-flashers plus 2-way steady flashlights. A 4-way circuit switch, permitting all-on or separate lighting, is featured. The unit has collapsible legs and uses a 6-v. lantern battery. The device is made of heavy gauge steel with red and white baked enamel, and reflectorized letters.

It can be used for hazardous areas, hose warnings, highway and traffic patrol and industrial safety. Red flags are available for day use.

Tedcar Products Co., Box 1209, Union, N. J. (Item 331)

For More Information—Circle Item Number on Reader Service Postcard

NEWS ITEMS

Mine Safety Appliances Co.

John W. Joy has been assigned as safety products and sales engineer in Indianapolis, Ind. The company also announced that Paul L. Weinheimer will be a safety products sales engineer for the firm in San Francisco. Mr. Joy has been with the company since 1957. Mr. Weinheimer joined MSC in 1944.

Tect, Inc.

This Northvale, N. J., manufacturer of safety solvents has been appointed national distributor by Detrex Chemical Industries, Inc., Detroit, for Detrex solvents and equipment. They will be offered from 38 different points to the company's jobbers, warehouses and direct company sales.

H. V. Gates

R. N. Chamberlain

The Fibre-Metal Products Co.

This Chester, Pa., manufacturer of safety and welding equipment has formed a new subsidiary company to warehouse and wholesale welding accessories and safety equipment in seven western states.

Fibre-Metal Pacific, Inc., will be located at 7332 South Garfield Ave., Bell Gardens, Calif. The company will carry warehouse inventory of Fibre-Metal, Glendale Optical, and J. N. Ragle products.

The warehouse will service a territory that includes Washington, Oregon, Idaho, California, Nevada, Utah and Arizona. It will be headed by H. V. (Vern) Gates, well known in the welding and safety industries.

The company also announced that R. N. (Ron) Chamberlain has joined the sales staff of Fibre-Metal Midwest, Inc., in Chicago. He has been assigned the North Central States.

Walter Kidde & Company, Inc.

Walter G. Beaman has been named district manager of West Coast operations, Industrial and Marine Div. Mr. Beaman joined Kidde in 1958 and has served as an industrial distributor.

F. S. Buckley

W. G. Beaman

Frederick S. Buckely has been named manager of marketing of the Industrial and Marine Div. by this Belleville, N. J., manufacturer of fire equipment. He has been with Kidde since 1946 and has served as district manager of the company's West Coast operations.

The Globe Co.

The Products Division of this manufacturer of safety grip-strut and gold nugget floor gratings recently acquired the Hilmar Co., Inc., of Detroit, manufacturers of expanded metal partitions and panels for enclosure problems. The new name for the product is "Globe Safe-Gard Expanded Metal Partitions." The partitions provide an easier method of guarding conveyors and machines and for in-plant partitioning.

Pioneer Rubber Co. of Texas

J. D. Burvee

R. M. Wilson

J. Kellam

J. Donald Burvee, R. M. "Bob" Wilson and Jerry Kellam have been appointed sales representatives by the main office in Willard, Ohio. Mr. Burvee will have headquarters in Kansas City and serve a territory that includes Missouri, Kansas, Oklahoma, South Wyoming and Colorado. Mr. Wilson will represent the company in the Texas and New Mexico area; and Mr. Kellam will be responsible for Arkansas, Louisiana, Mississippi, Tennessee and Houston, Texas.

J. G. Kish

Iron Age Safety Shoe Div., G. Childs & Co., Inc.

John G. Kish is the newly appointed treasurer of Iron Age. Mr. Kish has been with Colonial Trust Company and in general law practice with the firm of Baxter, O'Neill and Houston. He will work at company headquarters in Pittsburgh.

J. T. Isbell

Petersen Engineering Co., Inc.

J. T. Isbell has been appointed vice-president of this manufacturer of line-stringing equipment. Mr. Isbell recently retired from the A. B. Chance Company after 32 years of service. In his new capacity, Mr. Isbell will be concerned with customer relations.

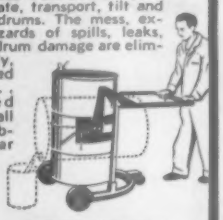
Strong, Carlisle & Hammond

This Cleveland industrial distributor has opened a new industrial safety equipment division. Heading the department is L. J. Lackner, veteran safety engineer. On the company staff are Bernard Manion and Jack Savage, twenty-six general supply salesmen will also be responsible for northern Ohio with the safety equipment.

Circle Item No. 121—Reader Service Card

MORSE
Model 80 *Barrel-Lift*

Now . . . one man can safely handle liquid drum loads from 500 to 1,000 lbs.—raise, rotate, transport, tilt and drain 55 gal. drums. The mess, expense and hazards of spills, leaks, overflow and drum damage are eliminated. Sturdy, all steel welded construction . . . rubber tired wheels with ball bearings and rubber tired rear caster.



MAN • MINUTE • MONEY SAVERS!

MORSE Model 85
Drum-Karrier

Provides **complete** control. Easy one-man operation. Attaches to any monorail hoist . . . for all double chine drums 23" in diameter, 36" in height. Positive tilt locks hold drum in vertical position for carrying . . . provide control of tilt for mixing or dispensing. All steel welded construction.

Clip this ad to your letterhead

MORSE MANUFACTURING CO., INC.
765 West Manlius Street, East Syracuse, N.Y.

GETS-A-LITE GUARD and GUIDE

Quickly and Easily Installed by Anyone—No Tools Needed!

- Simply slip GETS-A-LITE GUARD AND GUIDE over the fixture, as illustrated.
- Made of indestructible spring steel wire. Nothing to break, get out of order or replace. Will last indefinitely.
- Once installed, GETS-A-LITE GUARD AND GUIDE is NEVER removed.
- Nothing to unlock, fuss with or lock, when changing lamps.
- GETS-A-LITE GUARD AND GUIDE actually steers lamp into socket, enabling maintenance man to change lamp in 10 seconds!
- Available for 40 watt and 100 watt fluorescent lamps.

GETS-A-LITE CO.—Dept. NSN-59
3865 N. Milwaukee Ave., Chicago 41, Ill.

Circle Item No. 122—Reader Service Card

Calendar Contest Winners For February

". . . . . ."

Theodore Hoeltje of Bemis Bros. Bag Co., Peoria, Ill., won the $100 first prize in the National Safety Council's "Safety Saying" contest with this line:

Don't trust makeshifts to carry your *weight!*

The contest appears monthly on the back pages of the Council's calendar. The theme for the February contest was "Falls Hurt—Be Alert."

Second prize of $50 went to Charles C. Hastings (Individual Member), Wyalusing, Pa. His entry was:

Sans ladder Sam's sadder—prostrate!

Mrs. Shirley H. Wilson (Individual Member), Thornton, Colo., won third prize of $25 for this line:

Sam learned 'climb-it control' far too late!

The 30 winners of $5 prizes are:

Miss Elsie Duvall (Individual Member), Glen Ellyn, Ill.

Mrs. Elsye J. Wilson (Individual Member), San Jose, Calif.

John H. Cameron, The Atlantic Refining Co., Philadelphia, Pa.

Miss Muriel Deitch (Individual Member), Smithtown, L.I., N.Y.

Mrs. Else Kraus (Individual Member), Salinas, Calif.

W. J. Thayer, Niagara Mohawk Power Co., Batavia, N.Y.

Mrs. Betty Hefler, Texas Farm Products Co., Nacogdoches, Texas.

Mrs. A. A. Johnson (Individual Member), Decatur, Ill.

Mrs. Max N. Croasmun, Advertising Specialties, Pittsburgh, Pa.

Mrs. H. R. Bierhorst (Individual Member), Jacksonville, Fla.

Miss Mayme Evans (Individual Member), Corpus Christi, Texas.

Isham P. Byrom, Jr., Isaac Litton Junior High School, Nashville, Tenn.

Mrs. Sam Pruitt (Individual Member), Manchester, Ga.

Howard O. Cord, Standard Oil Co. (Ind.), Whiting, Ind.

Miss Betty M. Swinger (Individual Member), Comstock Park, Mich.

Thornton Bauer, The Nelson Co. Inc., Louisville, Ky.

Mrs. Helen S. Stevens (Individual Member), New Orleans, La.

W. W. Ohlemacher, American Crayon Co., Sandusky, Ohio.

Mrs. Nona Hauprich (Individual Member), Pittsfield, Mass.

Mrs. June E. Odell, Swan Manufacturing Co., Vancouver, Wash.

Miss Beatrice C. Sims (Individual Member), Fayetteville, Ark.

John J. Sodofsky, Kuhlman Electric Co., Salinas, Calif.

Mrs. Gene Hull (Individual Member), Portland, Ore.

Bill Heidbrink, Mobil Oil Co., Denver, Colo.

Mrs. D. O. Martin (Individual Member), Coffeyville, Kan.

Mrs. Flossie Vi Collett (Individual Member), Spokane, Wash.

Miss Mary W. Olliff, E. I. du Pont de Nemours & Co., Carneys Point, N. J.

Miss Gladys Dickie, Balco Forest Products Ltd., Heffley Creek, B. C., Canada.

Quincy A. Sanders, Carnation Company, Muskogee, Okla.

Brian Petersen, E. I. du Pont de Nemours & Co., Dupont, Wash.

WARNING LIGHTS!

POWERFUL REVOLVING & FLASHING TYPES

FOR INDUSTRIAL USE AND EMERGENCY VEHICLES

PERMANENT MOUNTING AND DEMOUNTABLE TYPES

•

ALSO AUTOMATIC EMERGENCY LIGHTS, PORTABLE SEARCH & FLOODLIGHTS AND SIRENS

THE PORTABLE LIGHT CO., Inc.
216 WILLIAM STREET, NEW YORK 38, N. Y.

Write for FREE Literature—Dept. 70

Circle Item No. 124—Reader Service Card

TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.

Bump Caps and Hats:

Suitable for plant guards and Civil Defense personnel, lightweight bump caps and hats are illustrated in a new Bulletin No. 0603-5. The resilient headgear is made of chemically-resistant plastic and ideal for use where there is no hazard of falling objects. A 1¾-in. square is molded into the caps and hats for placement of company or other identification insignia. Also described in the bulletin are MSA Skullgards, glass fiber hats, type "T" aluminum hats and Shockgards. Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa.

For more details circle No. 400 on enclosed return postal card.

Safety Ladders:

Ladder users will find The Patent Scaffolding Company's new Bulletin SL-1 of particular interest. It illustrates and describes the many advantages of Patent's new "Trouble Saver" safety ladders. Combining the safety and strength of steel construction with the efficiency of a rolling unit, these new safety ladders save time, labor, and effort in fixed height work in a wide range of applications. They are made in 20-in. and 30-in. widths in a complete range of sizes, from one to five steps without handrails and from 2 to 12 steps with handrails. Design features include: all-welded construction, smooth rolling casters, which lock when user steps on ladder, flared base for greater stability, extra braces on taller ladders, expanded metal treads of improved design, and curved front rails on units without guard rails, making ladder easier to grasp for rolling. The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y.

For more details circle No. 401 on enclosed return postal card.

Speeds Construction of Safety Railings:

By eliminating threading and welding and minimizing pipe cutting, high-strength aluminum Nu-Rail Slip-On Structural Fittings save up to 30 per cent in costs. Five basic fittings make up combinations for any kind of safety or guard rail for use outdoors or indoors. Bulletin gives full details. Hollaender Mfg. Co., 3841 Spring Grove Ave., Cincinnati 23, Ohio.

For more details circle No. 402 on enclosed return postal card.

Lewis-Shepard Offers Free Copies of the Lever Magazine:

Free copies of the March, 1959 issue of the Lewis-Shepard *Lever*, a 16-page magazine describing new developments and uses of 24-volt narrow aisle equipment to solve a wide variety of materials handling problems, are now available from Lewis-Shepard Products, Inc., 125 Walnut St., Watertown, Mass. Of special interest in this issue of a feature article on electric passenger car design and the latest developments in the marketing of these units for public use. Other articles in this two-color presentation describe special designs in powered equipment that offer cost savings in many operations for industry. In addition, Lewis-Shepard introduces a new, heavy-duty two-wheel hand truck designed for extra heavy duty operations in warehouses and on terminal docks.

For more details circle No. 403 on enclosed return postal card.

Metal Poles and Bracket Units:

Brochure PWB-59 illustrates typical installations of "Servisafe" poles and bracket units, including steel mills, shopping centers, parking lots, institutions, and hazardous locations. It also features detailed cutaway photographs of a two-pole hanger unit and outlines the foolproof "Servisafe" operating procedure. Underwriters' Laboratories Approved Ratings, electrical characteristics, capacities, and range of types and models available also are outlined in the booklet. The Thompson Electric Co., P. O. Box 873-AZ, Cleveland 22, Ohio.

For more details circle No. 404 on enclosed return postal card.

Hydraulic Crane Scale:

Recent technical and design improvements of the Martin-Decker Sensater Hydraulic Crane Scale are included in a revision of descriptive literature now available. Bulletin M-25 describes the new SU-5 series, which is available in capacities of 1,000 to 4,000 pounds. The scale has been redesigned to meet the need for low headroom loss (13¼-in.) and light weight (60 lbs.), and yet meet the accuracy tolerances of the Bureau of Standards; it has a five times rated capacity safety factor, a full 360° easy-to-read dial, and a 25 per cent tare adjustment. According to the manufacturer, the new scale will operate accurately under the extreme conditions of dust, grit, moisture, corrosion, and impact. Interesting case histories and photo reprints of actual installations of both series are available in addition to descriptive literature. Martin-Decker Corp., 3431 Cherry Ave., Long Beach 7, Calif.

For more details circle No. 405 on enclosed return postal card.

Guide for Industrial Audiometric Technicians:

A newly-revised booklet on industrial hearing conservation has been published by Employers Mutuals of Wausau, Wis. The booklet, *Guide for Industrial Audiometric Technicians*, was first printed in 1954. According to Roger B. Maas, Employers Mutuals Hearing Consultant, the revised edition contains a large amount of new information compiled from the firm's wide experience in working with hundreds of policyholders' audiometric technicians, as well as audiologists, otologists, and audiometer manufacturers. Major changes include a new glossary, updating of techniques, use of equipment, and theory. Employers Mutuals of Wausau, Wausau, Wis.

For more details circle No. 406 on enclosed return postal card.

Fire Extinguishers:

A new brochure just released by American LaFrance describes the company's complete line of portable fire extinguishers and accessories for office and plant use. Emphasizing the need for having the right extinguisher in the right place at the right time so that a fire can be snuffed out in the first critical minutes, the brochure describes the carbon dioxide, dry chemical, soda-acid, foam, vaporizing liquid, pressurized water, and anti-freeze extinguishers and wheeled engine units which are approved by Underwriters' and Factory Mutual Laboratories. American LaFrance Corp., Elmira, N. Y.

For more details circle No. 407 on enclosed return postal card.

Materials Handling:

Catalog 59-G includes specifications and illustrations on 44 models of two-wheel trucks, 12 types of dollies, 4 wagon trucks, 24 platform and shelf truck models, and many styles of casters plus jacks and semi-live skids. Also included are complete specifications on demountable rubber-tired, plastic, semi-pneumatic, and full pneumatic wheels. Nutting Truck and Caster Co., 1201 W. Division St., Faribault, Minn.

For more details circle No. 408 on enclosed return postal card.

Industrial Trucks:

The Automatic Transportation Co. has published a new *Industrial Trucks Selector Guide* which will be of assistance to all material handling men in setting up new or revising present systems in relation to their specific plant problems. Over 150 models to fit all requirements are illustrated in this 20-page, two-color booklet. The selection factors, such as capacity, frequency of use, power source, and use of semi-standard or special trucks are also given as a ready reference to all automatic industrial trucks. Additional facts on selection of pallets and skids for use with the different model trucks, truck attachments, special die handlers, and tractors are included. Automatic Transportation Co., 149 W. 87th St., Chicago, Ill.

For more details circle No. 409 on enclosed return postal card.

High-Velocity Electro-Cell:

Bulletin No. 258-A describes company's new line of high-velocity Electro-Cell electronic air cleaners. The new high-velocity

filter is shallower, smaller in face area, and requires less space than any other high-velocity precipitator. Power consumption is low and maintenance is completely automatic. Efficiency as determined by the National Bureau of Standards Dust Spot Test Method is as high as 97 per cent. The bulletin explains the electronic principle of operation, describes collector cell construction, gives details on basic design features. The bulletin also describes the new dual-voltage "Fail-Safe" power pack for the High Velocity Electro-Cell, and discusses three different arrangements of maintenance equipment. American Air Filter Co., Inc., Dept. PD, 215 Central Ave., Louisville 8, Ky.

For more details circle No. 410 on enclosed return postal card.

Oxygen and Resuscitation Units:

A new leaflet, No. 2417, describing their latest Emergency Oxygen and Resuscitation Units is available from the Ohio Chemical and Surgical Equipment Co., Madison 10, Wis. Case and cart models for oxygen and resuscitation and units for oxygen therapy only are illustrated and described in detail. Depending upon the size of cylinder used, the Ohio oxygen and resuscitation units supply from 30 to 60 minutes of oxygen, all of which goes directly to the patient. A built-in safety valve protects the patient from excessive pressure. These versatile units are especially designed for use by physicians, dentists, industrial plants, fire and police rescue squads, civil defense units, and others who may have to deal with emergencies.

For more details circle No. 411 on enclosed return postal card.

Optical Products:

Bausch and Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y., has made it easy for persons interested in optical equipment to select the exact catalog to fit their informational requirements. Optical Products Catalog L-86 is a 24-page illustrated index which lists current Bausch and Lomb catalogs. It is divided into consumer, ophthalmic, and scientific and technical products classifications, corresponding to the major product divisions of the company. This permits catalogs of allied products to be grouped together for quick, easy reference. Each catalog entry includes a cover illustration and brief descriptive data. A factual account of the contents is included and each catalog number is specified.

For more details circle No. 412 on enclosed return postal card.

Safety Wheel Blocks:

A new bulletin describing its Model WB2H cast steel wheel block has been published by Calumet Steel Castings Corp., 1636 Summer St., Hammond, Ind. Designed to block the wheels of trucks, trailers, and other vehicles, the WB2H Wheel Block is finding wide application on loading docks, platforms, etc., especially when the vehicles are loaded by fork trucks. The safety wheel blocks prevent movement of the vehicle when the loaded fork truck's weight is transferred from the dock to the trailer.

For more details circle No. 413 on enclosed return postal card.

Pushbutton Actuators:

The new "12MA" series of pushbutton actuators for basic switches is the subject of a new data sheet, No. 155, just released by Micro Switch, Freeport, Ill. The data sheet shows how the six catalog listings in the series (two button sizes in three colors each) allow use of a great selection of Micro Switch basic switches. Included is a chart which gives typical current and circuitry requirements; then shows which basic switch may be used with the actuators to meet each requirement. Complete dimension drawings are given for both button sizes.

For more details circle No. 414 on enclosed return postal card.

Inhalation Therapy Equipment:

A new *Inhalation Therapy Equipment Catalog* illustrates a complete line, including equipment for central oxygen suction for anesthetic gas piping systems. Featured is a new versatile oxygen therapy mask easily converted for use with diluter air injector for rebreathing or nonrebreathing or for positive pressure. Oxygen Equipment and Service Co., 8335 S. Halsted St., Chicago 20, Ill.

For more details circle No. 415 on enclosed return postal card.

Aluminum Bridge Railings:

A printed folder containing complete drawings and specifications on aluminum bridge railings and accessories has been published by Reynolds Metals Co., Department PRD-5, Box 2346, Richmond 18, Va. Of special interest to highway and construction engineers, the 26 separate drawings are printed on tracing paper for convenient use.

For more details circle No. 416 on enclosed return postal card.

Sling Chains:

Bulletin "A" is a 20-pager that lists specs for standard, single, double, triple, guadruple branch, and other types of slings. Includes suggestions for use, care, safety, and inspection. Photos and drawings included. The McKay Co., 1005 Liberty Ave., Pittsburgh 22, Pa.

For more details circle No. 417 on enclosed return postal card.

Silicones:

This 16-page 1959 Guide is said to be the most complete reference to silicones ever published. Tells how to cut production costs and simplify designs. Gives applications, photos, charts. Dow-Corning Corp., Midland, Mich.

For more details circle No. 418 on enclosed return postal card.

Self-Closing Waste Receptacle:

Full descriptions and specifications are now available on Bennett's new Self-Closing Wear-Resistant Waste Receptacle —the Model 144, designed for both indoor and outdoor locations, easy use, simplified emptying. Bulletin 200 gives full details. Bennett Mfg. Co., Inc., Alden, N. Y.

For more details circle No. 419 on enclosed return postal card.

How Safe Is Safety Clothing?

New tables show how Dynel, Orlon, Dacron, Acrilan, vinyl-coated fabrics, and vinyl and polyethylene films, stack up under 20-hour dunking in acids, alkalies, salts, and solvents in varying concentrations and at varying temperatures. Milburn Co., 3246 E. Woodbridge, Detroit 7, Mich.

For more details circle No. 420 on enclosed return postal card.

Sounds for Safety:

Data sheet describes a line of "Self-Powered" horns which can be used to give effective warning in the case of disaster or accident. Useful for truck fleets and boat owners. Units use a Freon propellant to sound horn. Horns can be triggered by a single choke mechanism. Falcon Alarm Co., Inc., 243 Broad St., Summit, N. J.

For more details circle No. 421 on enclosed return postal card.

Safe Use of Solvents:

Technical report offers a new approach for the relative safety of solvents used in "cold cleaning" of metal parts, etc. The report defines a new concept, a relative safety index for solvent evaluation, based on maximum allowable concentration, vapor pressure, and the evaporation rate of solvents. E. I. du Pont de Nemours & Co., Electrochemicals Div., Wilmington, Del.

For more details circle No. 422 on enclosed return postal card.

Welding Screens:

Catalog supplement introduces new neoprene-coated fibrous glass and aluminized asbestos cloth welding screens. The cloth protects against temperatures up to 1400 F. Curtains, blankets, and drapes are also spotlighted. Single Glove Co., 860 Weed St., Chicago, Ill.

For more details circle No. 423 on enclosed return postal card.

Explosion-Proof Electrical Equipment:

Folder records an interesting conversation between an electrical engineer and a company representative on the merits of electrical equipment for hazardous location use. Explosionproof equipment, from lighting to motor controls, is discussed, as well as construction principles and applications. Crouse-Hinds Co., Wolf and 7th St., Syracuse 1, N. Y.

For more details circle No. 424 on enclosed return postal card.

Hard Floor Maintenance:

Maintenance booklet describes 'How to Finish and Maintain Hard Floors." It details procedures for effective maintenance of terrazzo, marble, concrete, magnesite, and ceramic tile floors. Booklet covers such topics as cleaners, waxes, and methods. Huntington Laboratories, Inc., Huntington, Ind.

For more details circle No. 425 on enclosed return postal card.

Portable "Airvac:"

Brochure introduces an air-operated vacuum cleaner, which is made of nonferrous metal and has no moving parts or electrical sparks. Unit can be used for the usual dry pickup and the handling of volatile liquids and combustible materials. "Airvac" is lightweight and completely portable. M-M-A, Inc., 53 N. Duke St., Lancaster, Pa.

For more details circle No. 426 on enclosed return postal card.

Dry Chemical Fluidization:

Technical bulletin on dry chemical fluidization offers the results of experiments undertaken to explain why freshfilled extinguishers outperform units subjected to vibration and packing due to transportation and storage. It also outlines how Ansul improved fluidization by improving gas tube design and relocating gas ports on its line of extinguishers to prevent solidifying of the dry chemical. Ansul Chemical Co., Marinette, Wis.

For more details circle No. 427 on enclosed return postal card.

Wooden Soles for Safety Shoes:

Bulletin describes the many advantages accruing in the use of wooden soles and wooden-soled shoes and boots by workers who need non-conductive soles for hot plates, ovens, and hot sand. Soles are punctureproof and also suitable for wet, cold floors, salt cellers, and acid conditions. Units are designed for factory, foundry, steel mill, and oil refinery wear. Reece Wooden Sole Shoe Co., 13th St. & 41st Ave., Columbus, Nebr.

For more details circle No. 428 on enclosed return postal card.

Dermatitis Control:

Illustrated brochure recommends a skin cleanser for the control and prevention of dermatitis. Resulting economies as well as ease of operation are highlighted. Cleanser contains an active bacteriostat which overcomes dermatitis and other skin ailments. Dameron Enterprises, Inc., 427 S. 20th St., Louisville, Ky.

For more details circle No. 429 on enclosed return postal card.

Disposable Paper Clothing:

Pamphlet highlights a new line of disposable paper clothing that is suited to application in chemical and atomic lab-

oratories where contamination is a major hazard. Material is durable, fire retardant, liquid repellant, and lightweight. Aprons, coats, pants, and jackets are available. The Olympic Glove Co., Inc., 95 Madison Ave., New York, N. Y.

For more details circle No. 430 on enclosed return postal card.

Safety Equipment Catalog:

Comprehensive catalog illustrates a complete line of personal safety equipment. The company's new research, production, and prescription laboratory facilities are also featured. U. S. Safety Service Co., 1535 Walnut St., Kansas City 8, Mo.

For more details circle No. 431 on enclosed return postal card.

Efficient Floor Care:

Leading safety authorities claim that slips and falls account for most of the disability injuries incurred in our country. This 32-page booklet offers valuable suggestions as to how proper care can reduce slip and fall accidents. Proper maintenance also aids in reducing flooring costs. Recommendations for the care of asphalt, rubber, vinyl, cork tile, wood, concrete, terrazzo, and marble floors are included. Masury-Young Co., 76 Roland St., Boston, Mass.

For more details circle No. 432 on enclosed return postal card.

Rest Room Sanitation:

New literature introduces a toilet disinfectant in tablet form, which is said to be more effective than phenol in destroying bacteria. Tablet is easy to use and kills germ-carrying bacteria in 30 seconds. Tablet can also be used to remove rust and lime deposits. Horizon Industries, 413 Lumber Exchange, Minneapolis 1, Minn.

For more details circle No. 433 on enclosed return postal card.

Coated Fabric Work Gloves:

A colorful catalog describes the latest additions to this company's line of industrial work gloves. Specifications of the various gloves are given and their uses are outlined. Booklet also contains a chart showing the resistance to chemicals of various coated gloves. The Granet Corp., 19 Loring Drive, Farmingham, Mass.

For more details circle No. 434 on enclosed return postal card.

Snake Bite Kit:

Brochure is designed to brief readers on a new, compact snake bite kit. The kit, about the size of a pocket knife, contains suction cups, antiseptic, knife blade, and a lymph constrictor. Illustrated instructions highlight the usefulness of this unit. E. D. Bullard Co., 2680 Bridgeway Blvd., Sausalito, Calif.

For more details circle No. 435 on enclosed return postal card.

Combustible Gas Indicators:

Booklet stresses basic facts in the selection, use, testing procedures, and required training needed to operate these indicators. Information contained applies to all makes of this type equipment. Use of indicators is extremely valuable in accident prevention. Davis Emergency Equipment Co., 45 Halleck St., Newark 4, N. J.

For more details circle No. 436 on enclosed return postal card.

Abrasive Tread Flooring:

Reprint gives statistics and data on slipping accidents and describes a new lightweight tread plate, with an abrasive surface to provide excellent slipproof qualities. Tread should find ready use where oil and grease present a slipping hazard. Aluminum Company of America, Inc., 1501 Elcoa Bldg., Pittsburgh 19, Pa.

For more details circle No. 437 on enclosed return postal card.

Air Handling and Fume Control:

Industrial dust control and use of Flexaust Hose and Portovent Ducts in conjunction with it are covered in new bulletins Nos. 83 and 84, which deal with applications of the products and their prices. Flexaust Co., 100 Park Ave., New York 17, N. Y.

For more details circle No. 438 on enclosed return postal card.

Safety Mirrors:

Safety mirrors which provide the answer to dangerous blind corner problems in your plant or warehouse are presented in a bulletin by L. L. Brossard Co., 540 N. Michigan Ave., Chicago 11, Ill. Covering "Klear-Vu" safety mirrors, the bulletin lists the different sizes available in both convex and flat styles.

For more details circle No. 439 on enclosed return postal card.

Safety Tools:

Safety tools made of high performance beryllium copper to minimize possibility of generating dangerous sparks are covered in a 400-page illustrated catalog of over 400 tools, now available from Beryllium Corp., Reading, Pa. Information is included on how your replacement costs can be cut by standardization on "Berylco" tools.

For more details circle No. 440 on enclosed return postal card.

Women's Safety Snoods:

Women's safety snoods designed to enclose more hair than conventional caps and thereby provide full protection for all hair all the time are covered in descriptive literature available from Kennedy-Ingalls Co., 3735 N. 35th St., Milwaukee 16, Wis. Other safety clothing and equipment is also described.

For more details circle No. 441 on enclosed return postal card.

Safety Shoes:

Safety shoes with "Aerotred" cushioned innersoles are covered in literature available from Knapp Bros. Shoe Mfg. Corp., 173 Spark St., Brockton, Mass. Information on the positive longitudinal and metatarsal arch support features of these shoes is presented.

For more details circle No. 442 on enclosed return postal card.

Fume Collectors:

The complete line of blast cleaning machines, dust filters, and welding fume collectors manufactured by Ruemelin Mfg. Co., 3885 N. Palmer St., Milwaukee, Wis., is covered in Bulletin 37-E. Application features are included.

For more details circle No. 443 on enclosed return postal card.

Ventilators:

Portable ventilators which drive out foul air and blow in fresh air assuring protection from dangerous fumes and gases to employees working in confined spaces are described and illustrated in literature published by Coppus Engineering Corp., 121 Park Ave., Worcester 2, Mass. Featured is information describing type "A" ventilators.

For more details circle No. 444 on enclosed return postal card.

Stops Fogging and Misting:

Fogging and misting on workers' eyewear and on transparent machine guards can be eliminated through application of "Seecloth" chemically treated fabric, which is described in literature published by Hygiene Research, Inc., 684 Broadway, New York 12, N. Y. Other applications are discussed.

For more details circle No. 445 on enclosed return postal card.

Hearing Tests:

Methods of testing employee hearing ability through use of the I. A. C. Standard Audiometric prefabricated testing room and a list of results which should be obtained are included in a booklet available from Industrial Acoustics Co., Inc., 341 Jackson Ave., New York 24, N. Y. Described are safe-guards for employers against heavy financial losses caused by increases in insurance premiums.

For more details circle No. 446 on enclosed return postal card.

Work Gloves:

Catalog containing information and illustrations on Edmont Mfg. Co.'s line of coated fabric work gloves is available from the firm. Included is a performance and chemical resistance preference chart for the several types of gloves discussed. Edmont Mfg. Co., 1300 Walnut St., Coshocton, Ohio.

For more details circle No. 447 on enclosed return postal card.

Safety Ladders:

Safety ladders designed to specifications provided by the American Standards Association in both ladder and extension types are discussed and illustrated in literature published by Dayton Safety Ladder Co., 2337 Gilbert Ave., Cincinnati, Ohio. Construction and safety features are detailed.

For more details circle No. 448 on enclosed return postal card.

Power Press Guards:

Power press guards which enable operators to work at top speed without fear of accidents are covered in a descriptive folder available from Weisman Mfg. Co., 31 S. St. Clair St., Dayton 2, Ohio.

For more details circle No. 449 on enclosed return postal card.

Sanitary Washing Facilities

Sanitary Washing Facilities such as wash-fountains and multi-stall showers which require fewer piping connections and lower installation costs are described and illustrated in Catalog 5801. Details on the simplicity of installation are included. Bradley Washfountain Co., 2203 W. Michigan St., Milwaukee 1, Wis.

For more details circle No. 450 on enclosed return postal card.

Lens Cleaning

Bulletin describes company's complete line of lens cleaning cabinets, lens cleaner, lens tissue, anti-fogging liquid, and anti-fogging stations. Wilkins Co., Inc., 220 Groton Ave., Cortland, N. Y.

For more details circle No. 451 on enclosed return postal card.

Spectacle-Type Goggles

The Fentall Company has available literature describing their complete line of spectacle-type goggles and adjustable face shields. The goggles listed are attractively styled, and the headgears are equipped with snap-on replaceable windows. Fendall Co., 4509 N. Lincoln Ave., Chicago 25, Ill.

For more details circle No. 452 on enclosed return postal card.

Solvents

Solvents formulated from low-toxicity materials are featured in Bulletin "S," entitled "Savings and Safety." Versatility, cleaning powers and fire safety are among the characteristics cited for the solvents. Tect, Inc., Northvale, N.J.

For more details circle No. 453 on enclosed return postal card.

Circle Item No. 125—Reader Service Card

Made in U.S.A. Pat. No. 2,821,426

BLOCK TOTER

(available in pairs)

A CEMENT BLOCK carrying tool that reduces finger injuries and possible infections resulting from continuous handling of rough building blocks.

SAFETY FIRST is the prime factor of this tool —light weight (22 oz.) and strength combine to make this the MOST SATISFACTORY tool for the handling of individual building blocks.

SAFETY FEATURES

Quick Thumb Release
Built-in Hoist Ring
Soft Flex Grip Handle

Tenzaloy Aluminum Construction
Eliminates Gloves and Sore Fingers
Load limit—500 pounds
Tested Lehigh Engineering Laboratory

$6.00 a pair

NAZARETH METAL FINISHING WORKS

12 W. Walnut St., Nazareth, Pa.

GUARANTEED WATERPROOF

LEATHER WORK SHOE

Upper leather treated with SYLFLEX®, the Dow Corning silicone for leather. Keeps water out. Lets leather breathe.

Waterproof rubber sole vulcanized to upper by unique process. Moisture cannot penetrate.

Sealed seams guarantee dryness.

More comfort, longer wear. Soft and flexible. For list of resources, write:

Dow Corning Corporation
Dept. 8014, Midland, Mich.

Circle Item No. 126—Reader Service Card

Index to Advertisers

A comprehensive Classified Safety Product Index and a Directory of Safety Equipment Sources appear in the March, 1959 Issue.

When writing them please mention NATIONAL SAFETY NEWS

A

Acme Protection Equipment Co. 159
Aluminum Co. of America 138
American Abrasive Metals Co. 171
American Biltrite Rubber Co. 109
American Brattice Cloth Corp. 161
American Chain & Cable Co., Inc. 116-117
American Industrial Safety Equipment Co. 162
American Optical Co. B.C.
American Tel. & Tel. Co. 115
Ampco Metal, Inc. 130
Ansul Chemical Co. 11
Arabian American Oil Co. 165

B

Bashin, W. M., Co. 158
Bausch & Lamb Optical Co. 111
Benson & Assoc. 160
Beryllium Corp. 87
Bethlehem Steel Corp. 107
Blonder-Tongue Laboratories Inc. 127
Brady, W. H., Co. 151
Brossard, Lester L., Co. 148
Bullard, E. D., Co. 64-148

C

Campbell Chain Co. 129
Carhoff Co. 154
Central Safety Equipment Co. 156
Chicago Eye Shield Co. I.B.C.
Chicago Hardware Foundry Co. 157
Colorado Fuel & Iron Corp. 124
Columbus McKinnon Chain Corp. 133
Coppus Engineering Co. 53
Cover, H. S. 170
Cunningham, M. E. Co. 146

D

Davenport A. C. & Son Inc. 151
Davis Emergency Equipment Co. 139
Detex Watchclock Corp. 62
Dockson Corp. 147
Dow Chemical Co. 103
Dow Corning Corp. 184
DuPont, E. I., De Nemour & Co. 40-41

E

Eagle Mfg. Co. 149
Economy Engineering Co. 152
Ellwood Safety Appliance Co. 149
Employers Mutual Of Wausau 113
Exide Industrial Div., Electric Storage Battery Co. 164

F

Falcon Alarm Co. Inc. 165
Fendall Co. 56
Fibre Metal Products Co. 126
Finnell Systems, Inc. 172
Foam-X Co. 153
Frommelt Industries 162
Fyr-Fyter Co. 51

G

Gentex Corp. 57
Gets-A-Lite Co. 100

H

Haws Drinking Faucet Co. 134
Hillyard Chemical Co. 101
Hollaender Mfg. Co. 163
Holt Mfg. Co. 155
Hood Rubber Co. 52
Horizon Industries, Inc. 170
Huntington Laboratories, Inc. 153
Hy-Test Div., International Shoe Co. 1

I

Industrial Products Co. 142
Industrial Safety Equipment Association 99
Iron Age Div., H. Childs & Co. 15

J

Jackson Products Div., Air Reduction Sales Co. 8
Johnson Ladder Shoe Co. 155
Jomac, Inc. 128
Jones & Co. 163
Jones & Laughlin Steel Corp. 12-13
Junkin Safety Appliance Co. 159

K

Kennedy-Ingalls Co. 147
Kidde, Walter & Co. 123

L

Legge, Walter G., Co., Inc. 157
Lehigh Safety Shoe Co. 3

M

Macwhyte Co. 95
Masury-Young Co. 169
McAn, Thom, Safety Shoe Div. 97
Medical Supply Co. 136
Merrill Brothers 168
Mineral & Chemicals Corp of American Speedi-Dri Div. 9
Minnesota Mining & Mfg. Co. 131
Mine Safety Appliance Co. I.F.C.
Modern Machine Tool Co. 171
Morrison Products, Inc. 166
Morse Mfg. Co. Inc. 180
Muter Co. 54

N

National Disinfectant Co. 158
National Foam System Inc. 63
National Safety Council 119-120-121-122
Nazareth Metal Finishing Works 184
Nichols Engineering Co. 58
Norman Industries Inc. 125

P

Packwood, G. H., Mfg. Co. 45
Park Industries, Inc. 152
Pittsburgh Plate Glass Co. 85
Portable Light Co., Inc. 180
Practical Mfg. Co. 150
Prairie State Products Co. 146
Pulmosan Safety Equipment Corp. 7

R

Riegel Textile Corp. 137
Rochester Safety Equipment Co. 167
Rockwood Sprinkler Co. 93
Rose Mfg. Co. 154

S

Safety Box Toe Co. 47
Safety First Supply Co. 143
Safety Tower Ladder Co. 144
Safeguard Mfg. Co. 156
Schrader's, A. Son 43
Scott Aviation Corp. 60
Silicone Paper Co. of America Inc. 5
Silver, Fred Co. 161
Singer Glove Co. 161
Speedi-Dri Div., Minerals & Chemical Corp. of America 9
Standard Safety Equipment Co. 132
Standard Signs, Inc. 145
Stonehouse Signs, Inc. 61
Stevens-Burt Co. 150
Stephenson Corp. 143
Surgical Mechanical Research, Inc. 166

T

Taylor, S. G., Chain Co. 140
Tokheim Corp. 142

U

Union Wire Rope Corp. 91
U. S. Borax & Chemical Corp. Pacific Coast Co., Div. 59
U. S. Safety Service Co. 89
U. S. Treasury 86

W

Washington Products Co. 144
Watchmoket Optical Co. 167
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp. 124
Wilder Mfg. Co. 160
Wilkie Optical Co. 145
Wilkins Co. Inc. 141
Willson Products Div., Ray-O-Vac 105
Wilson Rubber Co. 16
Wyandotte Chemical Co. 48-49

MY JOB is to make certain that the safety equipment our company buys is the finest available. Before I buy any safety product, I carefully examine its design features, the quality of materials used, and the practical on-the-job advantages it offers. CESCO head and eye protective equipment constantly earns top position on our approved list because of the overall excellence that their products provide on these counts. Take this new CESCO Helmet Type Face Shield, for example. Made of translucent fiber glass, it has a replaceable plastic window mounted on a molded rubber gasket for greater resistance to impact. In addition, it offers a new detachable headgear which is adjustable three ways to fit any head size. It's features like these that make an investment in CESCO safety equipment last longer, give greater user comfort, and most important—provide positive protection against the hazard for which it is designed.

I urge you to see the many new safety equipment developments that your CESCO distributor is offering right now! He's also a safety specialist who will give you expert advice on any safety equipment problem. What's more, he will back up his recommendations with prompt delivery of the items you order —in most cases, from the complete line of CESCO products he carries in stock.

Coast to Coast, there's a CESCO Distributor nearby ready to serve you!

BUY CESCO PRODUCTS FROM THESE SAFETY EQUIPMENT DISTRIBUTORS

ATLANTA, GA.
Guardian Safety Equipment Co.
1091 Euclid Avenue, N. E.

BATON ROUGE, LA.
Guardian Safety Equipment Co.
2615 Capitol Heights Ave.

BIRMINGHAM, ALABAMA
Safety Supplies & Service Co.
1540 Montclair Road

BOSTON, MASS.
General Equipment Corporation
261 Franklin Street

BUFFALO, N. Y.
The Watson Company
1382 Kenmore Avenue

CHICAGO, ILLINOIS
Universal Safety Equipment Co.
5115 West Diversey Avenue

CINCINNATI, OHIO
Williams & Co., Inc.
3231 Fredonia Avenue

CLEARWATER, FLORIDA
Car-Mad Equipment Company
626 Palm Avenue, Belleair

CLEVELAND, OHIO
Williams & Co., Inc.
1700 Perkins Avenue

COLUMBUS, OHIO
Williams & Co., Inc.
990 Williams Avenue

DALLAS, TEXAS
Guardian Safety Equipment Co.
3107 Commerce Street

DENVER, COLORADO
Ismail Rubber Co.
1855 Santa Fe Drive

DETROIT, MICH.
Averill Equipment Company
19225 Consent Avenue

HOUSTON, TEXAS
Guardian Safety Equipment Co.
200 Sandman Street

KANSAS CITY, MO.
Safety, Inc.
1716 East 31st Street

KNOXVILLE, TENN.
Safety Equipment Distributing Co.
832 W. Main Street

LOS ANGELES, CALIF.
Guardian Safety Equipment Co.
7223 South Main Street

LOUISVILLE, KENTUCKY
Williams & Co., Inc.
1100 South Preston Street

MILWAUKEE, WIS.
Universal Safety Equipment Co.
3155 South Seventh Street

NEW YORK, N. Y.
(See ORANGE, N. J.)

ORANGE, N. J.
Guardian Safety Equipment Co.
400 South Jefferson Street
(New York-New Jersey Area)

PEORIA, ILLINOIS
Standard Industrial Products Co.
3527 W. Farmington Road

PHILADELPHIA, PA.
Guardian Safety Equipment Co.
214 South 45th Street

PITTSBURGH, PA.
Williams & Co., Inc.
901 Pennsylvania Avenue

ST. LOUIS, MO.
Safety, Inc.
2908 Olive Street

ST. PAUL, MINN.
Continental Safety Equipment, Inc.
1951 Selby Avenue

SALT LAKE CITY, UTAH
Universal Safety & Fire Equipment Co.
727 South West Temple

SAN MATEO, CALIF.
Guardian Safety Equipment Co.
220 East Third Avenue

TOLEDO, OHIO
Williams & Co., Inc.
945 Kane Street

TUCSON, ARIZONA
Grinnell Fire Fighting Equipment Co.
2521 N. Stone Avenue

TULSA, OKLA.
Guardian Safety Equipment Co.
1742 South Main Street

MEXICO CITY, D. F.
Safety Equipment, S. A.
Reseo Morono, 1529

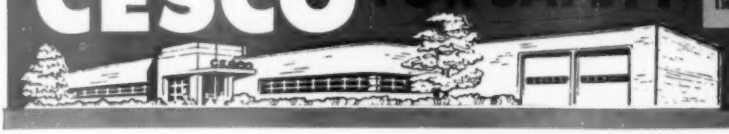
EDMONTON, CANADA
Super-Singleton Electric Co.
10031 101st Street

MONTREAL, CANADA
The Butler Optical Company, Ltd.
1939 Mountain Street

WINNIPEG, CANADA
MacKay-Morton Limited
183 James Street East

CESCO

CESCO FOR SAFETY



CHICAGO EYE SHIELD COMPANY
2708 West Roscoe Street, Chicago 18, Illinois

Circle Item No. IBC—Reader Service Card

Eye Protection and Correction (℞) in 3 Eye Appealing Series!

These are the modern types of safety prescription glasses that workers wear willingly. Combining good looks with SAFETY STANDARD FRAMES AND LENSES, they provide the basic ingredients for an ℞ program. Specify them also for the finest in plano protection. Your workers deserve the best!

"SAFEMASTER" is American Optical's latest. Frame is high quality nickel silver. Trim of durable nonflammable plastic minimizes glare reflection. Every frame must pass *three* National Bureau of Standards tests. 4 eye, 5 bridge sizes. Comfort cable and spatula tip temples. Engraved eyewire, non-snagging screw heads. Double-braced bridge. (Catalog No. F5200)

"2-TONE." Another late model addition to AO's line of Ultrascopic safety glasses. Onyx on crystal acetate. Light, strong, they give durable protection against impact. Especially recommended for chemical and physics lab work, electrical operations etc., where sparks are particularly hazardous. Available with adjustable nose pads. The AO plaque on frame is your guide to true safety. (Catalog No. F9700)

NOTE: All 3 series available with clear or Calobar lenses. (Calobar lenses protect against glare, heat, ultraviolet and infrared as well as impact.)

ULTRASCOPIC FRAMES in Pink Crystal or Mahogany. Available with or without side shields. Shields are perforated for ample ventilation and to prevent lens fogging. Their shape simplifies ℞ fitting and provides the protection of a cup goggle. An exclusive AO security feature is the patented eyewire which anchors lens against deflection toward eye. Frames are flame-resistant cellulose acetate butyrate. (Catalog Nos. F9500 — pink crystal, F9500M — mahogany)

Safety Service Centers in Principal Cities

American Optical
COMPANY
SAFETY PRODUCTS DIVISION
SOUTHBRIDGE, MASSACHUSETTS

YOUR NEAREST AO SAFETY PRODUCTS REPRESENTATIVE CAN SUPPLY YOU

Always insist on the ® Trademark on Lenses and Frames

Circle Item No. 8C—Reader Service Card